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# OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 48.1446 Seconds  
(without alignments)  
651.429 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599

Sequence: 1 GPETLGAELVDALQFVCGP.....THKRLQPRRKSTLEHHK 111

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : A\_Geneseq\_29Jan04:\*

1: Geneseq1980s:\*

2: Geneseq1990s:\*

3: Geneseq2000s:\*

4: Geneseq2001s:\*

5: Geneseq2002s:\*

6: Geneseq2003as:\*

7: Geneseq2003bs:\*

8: Geneseq2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	599	100.0	111	4	AAE02448 Rat IGF-I
2	599	100.0	111	5	AAU10560 Rat mecha
3	599	100.0	111	7	ABR63168 Rat mecha
4	537	89.6	133	6	ABP58085 Mouse MGF
5	537	89.6	133	7	ADA23374 Mouse MGF
6	536	89.5	181	7	AD557465 Rat Prote
7	512	85.5	111	4	AAE02449 Rabbit IG
8	512	85.5	111	5	AAU10561 Rabbit me
9	512	85.5	111	7	ABR63169 Rabbit me
10	512	85.5	121	2	AAW23301 Rabbit in
11	494.5	82.6	110	4	AAE02447 Human IGF
12	494.5	82.6	110	5	AAU10559 Human mec
13	494.5	82.6	110	7	ABR63167 Human mec
14	471	78.6	105	4	AAE02451 Rat liver
15	471	78.6	105	4	AAE02451 Rat liver
16	471	78.6	105	5	AAU10563 Rat liver
17	471	78.6	105	7	ABR63171 Rat liver
18	464	77.5	195	1	AAU10561 Sequence
19	443	74.0	153	7	ADA23373 Rat Prote
20	443	73.5	127	7	ADA23373 Mouse ins
21	423	70.6	105	4	AAE02450 Human liv
22	423	70.6	105	5	AAU10562 Human ins
23	423	70.6	105	7	ABR63170 Human liv
24	423	70.6	137	4	AAU09067 Human ins
25	423	70.6	153	2	AAE83803 Insulin-1

26	423	70.6	153	2	AAW69733 Human IGF
27	423	70.6	153	2	AAW57882 Human IGF
28	423	70.6	153	5	AAU84284 Human end
29	423	70.6	153	5	AAU84341 Protein I
30	423	70.6	153	6	ADA26451 Human ins
31	423	70.6	153	7	ADCS9343 Human ins
32	423	70.6	153	7	ADDD5494 Binding d
33	423	70.6	154	2	AAU08464 Goat Insu
34	423	70.6	156	2	AAE23302 Human ins
35	420	70.1	105	4	AAE02452 Rabbit 11
36	420	70.1	105	5	AAU10564 Rabbit in
37	417	69.6	105	7	ABR63172 Rabbit 11
38	416	69.4	119	1	AAE60578 Human pre
39	414	69.1	105	4	AAE02456 Rabbit 11
40	412.5	68.9	191	2	AAE40658 Chimeric
41	412.5	68.9	191	5	AAE24881 Yeast alp
42	367	61.3	78	3	AAU98482 Pep 17 us
43	367	61.3	78	3	AAU59027 Peptide 1
44	367	61.3	78	4	AAE45835 Nucleic a
45	367	61.3	78	4	AAU04272 Nuclear 1

## ALIGNMENTS

RESULT 1  
AAE02448  
ID AAE02448 standard; protein; 111 AA.

AC AAE02448;

DT 10-AUG-2001 (first entry)

DE Rat IGF-I isoform mechano-growth factor (MGF) protein.

XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;  
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;  
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;  
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;  
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;  
KW sex-linked muscular dystrophy; peripheral neuropathy;  
KW Alzheimer's disease; Parkinson's disease.

OS Rattus sp.

PN WC200136483-A1.

PD 25-MAY-2001.

PF 15-NOV-2000; 2000MO-GB004354.

PR 15-NOV-1999; 99GB-00026968.

XX (UNLO ) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI, 2001-355620/37.

DR N-PSDB; AAD06399.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I, capable of reducing motoneurone loss, in the manufacture of a medicament for the treatment of neurological disorder.

XX Claim 4; Page 52; 66pp; English.

PS The present invention relates to use of mechano-growth factor (MGF), an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a medicament for the treatment of neurological disorder. The MGF is capable of reducing motoneurone loss by 20% or greater in response to nerve avulsion. The MGF polynucleotide and polypeptide are useful in the manufacture of a medicament for the treatment of a neurological disorder.

CC specification. However it differs at a single position

XX Sequence 105 AA;

Query Match 78.6%; Score 471; DB 4; Length 105;  
Best Local Similarity 100.0%; Pred. No. 4.8e-39;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLMY	60
DB	1	GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLMY	60
QY	61	CVRCPTKSARSIRARHTDMPKTX	86
DB	61	CVRCPTKSARSIRARHTDMPKTX	86

Search completed: March 3, 2004, 07:53:36  
Job time : 48.146 secs

Oy 61 CVRCPTKSARSIRAPQRTDMPKTKOSQPLSTHKKRLQRRRKSTLEEK 111  
 Db 61 CAPLKPASARSVAQRTDMPKTKQKQPPSTNKTKSQ-RRKSTFEERK 110

## RESULT 14

AAE02531

AAE02531 standard; protein; 105 AA.

AC AAE02531;

DT 10-AUG-2001 (first entry)

DE Rat liver-type IGF-I isoform (L.IGF-I) protein, alternative version.

XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX Rattus sp.

XX Key

XX Location/Qualifiers

XX MISC-difference 102

XX /note= "Encoded by ACC"

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNIO ) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06404.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,

XX capable of reducing motoneurone loss, in the manufacture of a medicament

XX for the treatment of neurological disorder.

XX Disclosure; Fig 9; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an

XX Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

XX medicament for the treatment of neurological disorder. The MGF is capable

XX of reducing motoneurone loss by 20% or greater in response to nerve

XX avulsion, and effects motoneurone rescue, preferably adult motoneurone

XX rescue. The MGF polynucleotide and polypeptide are useful in the

XX manufacture of a medicament for the treatment of a neurological disorder,

XX including a disorder of motoneurons and/or neurodegenerative disorder,

XX e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

XX spinal muscular atrophy, infantile or juvenile muscular atrophy,

XX poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

XX toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an

XX injury that affects motoneurons, motoneurone loss associated with aging,

XX autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

XX peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The

XX present sequence is alternative version of rat liver-type IGF-I isoform

XX (L.IGF-I). The L.IGF-I protein comprises amino acid sequences encoded by

XX nucleic acid sequence of IGF-I exons 4 and 6. Note: The present sequence

XX is stated as being the same as SEQ ID NO: 12 shown in sequence listing

XX (AAE02451) of the specification. However it differs at a single position

XX Sequence 105 AA;

Query Match 78.6%; Score 471; DB 4; Length 105;  
 Best Local Similarity 100.0%; Pred. No. 4.8e-39;  
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

## RESULT 15

AAE02451

AAE02451 standard; protein; 105 AA.

AC AAE02451;

DT 10-AUG-2001 (first entry)

DE Rat liver-type IGF-I isoform (L.IGF-I) protein.

XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KW mechano-growth factor; neurological disorder; neurodegenerative disorder;

KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KW sex-linked muscular dystrophy; peripheral neuropathy;

KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX Rattus sp.

XX Key

XX Location/Qualifiers

XX MISC-difference 102

XX /note= "Encoded by ACC"

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNIO ) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06404.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,

XX capable of reducing motoneurone loss, in the manufacture of a medicament

XX for the treatment of neurological disorder.

XX Disclosure; Page 58-59; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an

XX Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

XX medicament for the treatment of neurological disorder. The MGF is capable

XX of reducing motoneurone loss by 20% or greater in response to nerve

XX avulsion, and effects motoneurone rescue, preferably adult motoneurone

XX rescue. The MGF polynucleotide and polypeptide are useful in the

XX manufacture of a medicament for the treatment of a neurological disorder,

XX including a disorder of motoneurons and/or neurodegenerative disorder,

XX e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

XX spinal muscular atrophy, infantile or juvenile muscular atrophy,

XX poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

XX toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an

XX injury that affects motoneurons, motoneurone loss associated with aging,

XX autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

XX peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The

XX present sequence is rat liver-type IGF-I isoform (L.IGF-I). The L.IGF-I

XX protein comprises amino acid sequences encoded by nucleic acid sequence

XX of IGF-I exons 4 and 6. Note: The present sequence (SEQ ID NO: 12) is

XX stated as being the same as that shown in figure 9 (AAE02531) of the

SQ Sequence 110 AA;

Query Match 82.6%; Score 494.5; DB 4; Length 110;  
 Best Local Similarity 85.6%; Pred. No. 2.4e-41;  
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

QY 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
 DB 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60

QY 61 CVRCKPTKASRISRAQRHTDMPKTKSQPLSTHKKRLQRRKSGSTLEEHK 111  
 DB 61 CAPLKPASARSVRAQRHTDMPKTKSQPLSTHKKRLQRRKSGSTLEEHK 110

## RESULT 12

AAU10559 ID AAU10559 standard; protein; 110 AA.

XX AC AAU10559;

XX DT 25-FEB-2002 (first entry)

XX DE Human mechano-growth factor (MGF) polypeptide.

XX KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 XX KM neuromuscular; nerve damage; peripheral nervous system; nerve severing;  
 XX KM muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 XX KM nerve avulsion.

XX OS Homo sapiens.

XX PN WC200185781-A2.

XX PD 15-NOV-2001.

XX PF 10-MAY-2001; 2001WO-GB002054.

XX PR 10-MAY-2000; 2000GB-00011278.

XX PA (UNLO ) UNIV COLLEGE LONDON.

XX PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX PI Goldspink G, Terenghi G;

XX DR WPI; 2002-055585/07.

XX DR N-PSDB; AAS16877.

XX PT Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 XX PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 XX PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 XX PT damage.

XX PS Claim 11; Fig 5; 65pp; English.

XX CC The invention relates to the use of an insulin-like growth factor I (IGF-  
 XX CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 XX CC medicament for treating nerve damage in the peripheral nervous system, or  
 XX CC for treating nerve damage by localising MGF at the site of damage. The  
 XX CC nerve damage may include severing of a nerve. The treatment may be  
 XX CC combined with another treatment (such as a polypeptide growth factor  
 XX CC other than MGF) that prevents or diminishes degeneration of the target  
 XX CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 XX CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 XX CC prevents or diminishes degeneration. The method is useful for treating  
 XX CC neurological disorders, preferably motoneuron disorders. These methods  
 XX CC can reduce motoneuron loss by 20% or greater in response to nerve  
 XX CC avulsion. This sequence represents the human MGF polypeptide

SQ Sequence 110 AA;

Query Match 82.6%; Score 494.5; DB 5; Length 110;  
 Best Local Similarity 85.6%; Pred. No. 2.4e-41;

Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

QY 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
 DB 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60

QY 61 CVRCKPTKASRISRAQRHTDMPKTKSQPLSTHKKRLQRRKSGSTLEEHK 111  
 DB 61 CAPLKPASARSVRAQRHTDMPKTKSQPLSTHKKRLQRRKSGSTLEEHK 110

## RESULT 13

ABR63167 ID ABR63167 standard; protein; 110 AA.

XX AC ABR63167;

XX DT 18-DEC-2003 (first entry)

XX DE Human mechano growth factor (C-terminal end).

XX KW Mechano growth factor; MGF; insulin-like growth factor I; human;  
 XX KM splice variant; cardiac; vasotropic; gene therapy.

XX OS Homo sapiens.

XX PN WC2003066082-A1.

XX PD 14-AUG-2003.

XX PF 06-FEB-2003; 2003WO-GB000537.

XX PR 07-FEB-2002; 2002GB-00002906.

XX PA (UNLO ) UNIV COLLEGE LONDON.

XX PA (UNIL ) UNIV ILLINOIS FOUND.

XX PI Goldspink G, Goldspink P;

XX DR WPI; 2003-636936/60.

XX DR N-PSDB; ACP79635.

XX PT Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 XX PT or limiting apoptosis in the myocardium, particularly for preventing or  
 XX PT limiting myocardial damage in response to ischemia or mechanical overload  
 XX PT of the heart.

XX PS Claim 5; Fig 7; 74pp; English.

XX CC The present sequence is that of the C-terminal end of novel human mechano  
 XX CC growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
 XX CC splice variant and non-liver type isoform of insulin-like growth factor  
 XX CC (IGF-I) that is activated in response to cardiac tissue damage and which  
 XX CC has a repair function in the ischaemic and/or overloaded heart. The human  
 XX CC MGF transcript has a 49 base insert in the B domain that alters the  
 XX CC reading frame and hence the C-terminal end of MGF protein in comparison  
 XX CC with other IGF-I splice variants. The invention provides use of a MGF  
 XX CC polypeptide or polynucleotide in the manufacture of a medicament for the  
 XX CC prevention or limitation of myocardial damage in response to ischemia or  
 XX CC mechanical overload of the heart by preventing or limiting apoptosis in  
 XX CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
 XX CC useful for administration in response to a heart attack

SQ Sequence 110 AA;

Query Match 82.6%; Score 494.5; DB 7; Length 110;  
 Best Local Similarity 85.6%; Pred. No. 2.4e-41;  
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

QY 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
 DB 1 GPEITLCAELVDALQVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60

CC ischaemia or mechanical overload of the heart by preventing or limiting  
 CC apoptosis in the myocardium. The MGF polypeptide, polynucleotide or  
 CC medicament is also useful for administration in response to a heart  
 CC attack  
 XX  
 SO Sequence 111 AA;

Query Match 85.5%; Score 512; DB 7; Length 111;  
 Best Local Similarity 86.5%; Pred. No. 4.4e-43;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITLGGALVDALQFVCGDGRGFYFNKPTVYSSIRAPQGIYDECCFSCDLRLLEY 60  
 DB 1 GPEITLGGALVDALQFVCGDGRGFYFNKPTVYSSIRAPQGIYDECCFSCDLRLLEY 60  
 QY 61 CVRCKPTKSARSIRARHTDMPKTKOKSPLSTHKKRLQRRKSTLEEHK 111  
 DB 61 CAPLKPAAKASVRAQRHTDMPKTKOKYQPSPTNKKMSQRRRKSTLEEHK 111

RESULT 10

AAW23301  
 ID AAW23301 standard; protein; 121 AA.

XX AAW23301;

XX 14-APR-1998 (first entry)

DE Rabbit insulin like growth factor 1.

XX Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder; heart;

XX neuromuscular disease.

XX Oryctolagus cuniculus.

XX WO9733997-A1.

XX 18-SEP-1997.

XX 11-MAR-1997; 97WO-GB000658.

XX 11-MAR-1996; 96GB-00005124.

XX (UNLO ) ROYAL FREE HOSPITAL SCHOOL MED.

XX Goldspink G;

XX WPI; 1997-470877/43.

XX N-PSDB; AAT84893.

PT Use of insulin like growth factor I characterised by presence of Ec  
 PT peptide - to treat humans or animals, particularly muscle disorders,  
 PT heart conditions or neuromuscular diseases.

PS Disclosure; Fig 3; 33pp; English.

XX A use of insulin like growth factor I (IGF-1) has been developed, and is  
 CC characterised by the presence of the Ec peptide, or a functional  
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1  
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or  
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive  
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,  
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases, and  
 CC cardiac disorders, e.g. diseases where promotion of cardiac muscle  
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute  
 CC heart failure or insult, specifically myocarditis or myocardial  
 CC infarction. It can also be used to promote bone fracture healing and  
 CC maintenance of bone in old age. The present sequence represents rabbit  
 CC IGF-1 used in the present specification

XX Sequence 121 AA;

SO Query Match

85.5%; Score 512; DB 2; Length 121;

Best Local Similarity 86.5%; Pred. No. 4.8e-43;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITLGGALVDALQFVCGDGRGFYFNKPTVYSSIRAPQGIYDECCFSCDLRLLEY 60  
 DB 11 GPEITLGGALVDALQFVCGDGRGFYFNKPTVYSSIRAPQGIYDECCFSCDLRLLEY 70  
 QY 61 CVRCKPTKSARSIRARHTDMPKTKOKSPLSTHKKRLQRRKSTLEEHK 111  
 DB 71 CAPLKPAAKASVRAQRHTDMPKTKOKYQPSPTNKKMSQRRRKSTLEEHK 121

RESULT 11

AAE02447  
 ID AAE02447 standard; protein; 110 AA.

XX AAE02447;

XX 10-AUG-2001 (first entry)

DE Human IGF-I isoform mechano-growth factor (MGF) protein.

XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

XX mechano-growth factor; neurological disorder; neurodegenerative disorder;

XX amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

XX poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

XX sex-linked muscular dystrophy; peripheral neuropathy;

XX Alzheimer's disease; Parkinson's disease.

XX Homo sapiens.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNLO ) UNIV COLLEGE LONDON.

XX Goldspink G; Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06398.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
 PT capable of reducing motoneurone loss, in the manufacture of a medicament  
 PT for the treatment of neurological disorder.

PS Claim 4; Page 50-51; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an  
 CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
 CC medicament for the treatment of neurological disorder. The MGF is capable  
 CC of reducing motoneurone loss by 20% or greater in response to nerve  
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone  
 CC rescue. The MGF polynucleotide and polypeptide are useful in the  
 CC manufacture of a medicament for the treatment of a neurological disorder,  
 CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an  
 CC injury that affects motoneurons, motoneurone loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is human IGF-I isoform MGF. MGF is a muscle isoform  
 CC having extracellular (Ec) domain, hence also referred as IGF-I-Ec. The  
 CC MGF protein comprises amino acid sequences encoded by nucleic acid  
 CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF

CC manufacture of a medicament for the treatment of a neurological disorder,  
 CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an  
 CC injury that affects motoneurons, motoneuron loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is rabbit IGF-I isoform MGF. MGF is a muscle isoform  
 CC having extracellular (EC) domain, hence also referred as IGF-I-EC. The  
 CC MGF protein comprises amino acid sequences encoded by nucleic acid  
 CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF  
 CC XX  
 SQ Sequence 111 AA;

Query Match 85.5%; Score 512; DB 4; Length 111;  
 Best Local Similarity 86.5%; Pred. No. 4.4e-43;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRAPOTGIVDECCRSCLRLLEY 60  
 DB 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRAPOTGIVDECCRSCLRLLEY 60  
 QY 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKRKLQRRRKGSTLEEHK 111  
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTKSQYQPPSTNKKMKSGRRRKGSTPEEHK 111

RESULT 8  
 AAU10561  
 ID AAU10561 standard; protein; 111 AA.  
 AC AAU10561;

DT 25-FEB-2002 (first entry)  
 DE Rabbit mechano-growth factor (MGF) polypeptide.

XX Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 KM neuropeptide; nerve damage; peripheral nervous system; nerve severing;  
 KM muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 KM nerve avulsion.

XX Oryctolagus cuniculus.

XX WO200185781-A2.

XX 15-NOV-2001.

XX 10-MAY-2001; 2001WO-GB002054.

XX 10-MAY-2000; 2000GB-00011278.

XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

XX Goldspink G, Terenghi G;  
 PI WPI; 2002-055585/07.

XX N-PSDB; AAS16879.

XX Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.

XX Claim 11; Fig 7; 65pp; English.

XX The invention relates to the use of an insulin-like growth factor I (IGF-  
 CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The

CC nerve damage may include severing of a nerve. The treatment may be  
 CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the rabbit MGF polypeptide  
 CC XX  
 SQ Sequence 111 AA;

Query Match 85.5%; Score 512; DB 5; Length 111;  
 Best Local Similarity 86.5%; Pred. No. 4.4e-43;  
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRAPOTGIVDECCRSCLRLLEY 60  
 DB 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRAPOTGIVDECCRSCLRLLEY 60  
 QY 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKRKLQRRRKGSTLEEHK 111  
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTKSQYQPPSTNKKMKSGRRRKGSTPEEHK 111

RESULT 9  
 ABR63169  
 ID ABR63169 standard; protein; 111 AA.  
 AC ABR63169;

DT 18-DEC-2003 (first entry)

DE Rabbit mechano growth factor (C-terminal end).

XX Mechano growth factor; MGF; insulin-like growth factor 1; rabbit;  
 KM splice variant; cardiac; vasotropic; gene therapy.

XX Oryctolagus cuniculus.

XX WO2003066082-A1.

XX 14-AUG-2003.

XX 06-FEB-2003; 2003WO-GB000537.

XX 07-FEB-2002; 2002GB-00002906.

XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (UNIL ) UNIV ILLINOIS FOUNDD.

XX Goldspink G, Goldspink P;

XX WPI; 2003-636936/50.

XX N-PSDB; ACP79637.

XX Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 PT or limiting apoptosis in the myocardium, particularly for preventing or  
 PT limiting myocardial damage in response to ischemia or mechanical overload  
 PT of the heart.

XX Claim 5; Fig 9; 74pp; English.

XX The present sequence is that of the C-terminal end of novel rabbit  
 CC mechano growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF  
 CC is a splice variant and non-liver type isoform of insulin-like growth  
 CC factor (IGF-I) that is activated in response to cardiac tissue damage and  
 CC which has a repair function in the ischaemic and/or overloaded heart. The  
 CC rabbit MGF transcript has a 52 base insert in the B domain that alters  
 CC the reading frame and hence the C-terminal end of MGF protein in  
 CC comparison with other IGF-I splice variants. The invention provides use  
 CC of a MGF polypeptide or polynucleotide in the manufacture of a medicament  
 CC for the prevention or limitation of myocardial damage in response to

CC amino acid sequence, which is given in comparison with mouse insulin  
 CC growth factor I (IGF1) in the exemplification of the present invention.

XX Sequence 133 AA;

Query Match 89.6%; Score 537; DB 7; Length 133;  
 Best Local Similarity 91.0%; Pred. No. 1.8e-45;  
 Matches 101; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPVTYSSIRAPQGTIVDECCFRSCDLRLRLEMY 60  
 DB 23 GPEITCGAELVDALQFVCGPRGFYFNKPVTYSSIRAPQGTIVDECCFRSCDLRLRLEMY 82

QY 61 CVRCRPTKSARSIRARHTDMPKTKQKOPSTHKKRKLQRRKSGSTLEEHK 111  
 DB 83 CAPLKPTKARSIRARHTDMPKTKQKOPSTHKKRKLQRRKSGSTLEEHK 133

RESULT 6

AD57466 standard; protein; 181 AA.

AC AD57466;  
 DT 29-JAN-2004 (first entry)

DE Rat Protein P08024, SEQ ID NO 3327.

XX Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;  
 KM chronic constriction injury; CCI; spared nerve injury; SNI; Chung.

OS Rattus norvegicus.

PN WO2003016475-A2.

PD 27-FEB-2003.

PF 14-AUG-2002; 2002WO-US025765.

PR 14-AUG-2001; 2001US-0312147P.

PR 01-NOV-2001; 2001US-0346382P.

PR 26-NOV-2001; 2001US-0333347P.

PA (GEHO) GEN HOSPITAL CORP.

PA (FARB) BAYER AG.

PI Woolf C, D'urso D, Befort K, Costigan M;

DR WPL; 2003-268312/26.

DR GENBANK; F08024.

PT New composition comprising two or more isolated polypeptides, useful for

PT preparing a medicament for treating pain in an animal.

PS Claim 1; Page; 1017pp; English.

XX The invention discloses a composition comprising two or more isolated rat  
 CC or human polynucleotides or a polynucleotide which represents a fragment,  
 CC derivative or allelic variation of the nucleic acid sequence. Also  
 CC claimed are a vector comprising the novel polynucleotide, a host cell  
 CC comprising the vector, a method for identifying a nucleotide sequence  
 CC which is differentially regulated in an animal subjected to pain and a  
 CC kit to perform the method, an array, a method for identifying a sequence  
 CC that increases or decreases the expression of the polynucleotide sequence  
 CC that is differentially expressed in neuronal tissue of a first animal  
 CC subjected to pain, a method for identifying a compound which regulates  
 CC the expression of a polynucleotide sequence which is differentially  
 CC expressed in an animal subjected to pain, a method for identifying a  
 CC compound that regulates the activity of one or more of the  
 CC polynucleotides, a method for producing a pharmaceutical composition, a  
 CC method for identifying a compound or more of the polypeptides given in the  
 CC activity in an animal of one or more of the polypeptides given in the  
 CC specification, a method for identifying a compound useful in treating

CC pain and a pharmaceutical composition comprising the one or more

CC polypeptides or their antibodies. The polynucleotide or the compound that

CC modulates its activity is useful for preparing a medicament for treating

CC pain (e.g. spinal segmental nerve injury (Chung), chronic constriction

CC injury (CCI) and spared nerve injury (SNI) in an animal (e.g. gene

CC therapy). The sequence presented is a rat protein (shown in Table 2 of

CC the specification) which is differentially expressed during pain. Note:

CC The sequence data for this patent did not form part of the printed

CC specification, but was obtained in electronic form directly from WIPO at

CC ftp://ipo.int/publ/published\_pcl\_sequences.

CC Sequence 181 AA;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPVTYSSIRAPQGTIVDECCFRSCDLRLRLEMY 60  
 DB 49 GPEITCGAELVDALQFVCGPRGFYFNKPVTYSSIRAPQGTIVDECCFRSCDLRLRLEMY 108

QY 61 CVRCRPTKSARSIRARHTDMPKTKQKOPSTHKKRKLQRRKSGST 106  
 DB 109 CAPLKPTKARSIRARHTDMPKTKQKOPSTHKKRKLQRRKSGS 154

RESULT 7  
 ID AAE02449 standard; protein; 111 AA.  
 AC AAE02449;  
 DT 10-AUG-2001 (first entry)

DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

XX Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

KM mechano-growth factor; neurological disorder; neurodegenerative disorder;

KM amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

KM poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

KM nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

KM sex-linked muscular dystrophy; peripheral neuropathy;

KM Alzheimer's disease; Parkinson's disease.

OS Oryctolagus cuniculus.

PN WO200136483-A1.

PN 25-MAY-2001.

PF 15-NOV-2000; 2000WO-GB004354.

PR 15-NOV-1999; 99GB-00026968.

PA (UNLO) UNIV COLLEGE LONDON.

PA Goldspink G, Johnson I;

DR WPI; 2001-355620/37.

DR N-PSDB; AAD06400.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,

PT capable of reducing motoneurone loss, in the manufacture of a medicament

PT for the treatment of neurological disorder.

PS Claim 4; Page 54; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an

CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve

CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the

CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
CC useful for administration in response to a heart attack

XX Sequence 111 AA;

Query Match 100.0%; Score 599; DB 7; Length 111;  
Best Local Similarity 100.0%; Pred. No. 1.1e-51;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDLRLRLEY 60  
DB 1 GPEITCGALVDALQVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDLRLRLEY 60  
QY 61 CVRCKPTKARSIRAPQRTDMPKTKQSOPSLTHKKRKLQRRKSGSTLEEHK 111  
DB 61 CVRCKPTKARSIRAPQRTDMPKTKQSOPSLTHKKRKLQRRKSGSTLEEHK 111

#### RESULT 4

ABP58085  
ID ABP58085 standard; protein; 133 AA.

XX ABP58085;

DT 07-MAR-2003 (first entry)

XX Mouse insulin-like growth factor IB.

XX Insulin-like growth factor IB; IGF-IB; mouse; mRNA; assay;  
XX nucleic acid detection.

OS Mus musculus.

PN WO200297390-A2.

PD 05-DEC-2002.

XX 31-MAY-2002; 2002WO-SE001056.

XX 01-JUN-2001; 2001SE-00001934.

XX (BIOV-) BIOVITRUM AB.

PI Parrow V, Rosengren L;

DR WPI; 2003-129529/12.

DR N-PSDB; ABV76185.

PT Quantitating a target nucleic acid in a sample comprises immobilizing, on  
PT a solid support, a sample comprising a target nucleic acid, and detecting  
PT and quantitating signals generated from the antisense and sense probes.

XX Example 1; Page 17; 19pp; English.

XX The present sequence is the protein sequence of murine insulin-like  
XX growth factor IB (IGF-IB). IGF-IB cDNA was used in an example of the  
XX method of the invention to generate probes for determination of IGF-IB  
XX RNA. The method comprises a quantitative hybridisation assay for analysis  
XX of mRNA in a target nucleic acid (TNA) sample. It involves: (1)  
XX immobilising the TNA sample on a solid support; (1i) contacting a  
XX labelled antisense probe to a first portion of the TNA, and a labelled  
XX sense probe to a second portion of the TNA; (1ii) detecting and  
XX quantitating the signals generated from the hybridised probes; and (1v)  
XX determining the value represented by the antisense probe signal minus the  
XX sense probe signal, the value being proportional to the amount of mRNA in  
XX the TNA sample. In an example of the method, a cDNA clone containing 60  
XX nucleotides from exon 2 and 179 nucleotides from exon 3 of the mouse IGF-  
XX IB gene was cloned into pGSM-42 vector. Linearisation of the plasmid with  
XX EcoRI allowed transcription of a 250-nucleotide antisense probe using T7  
XX polymerase. Linearisation with HindIII allowed transcription of a sense  
XX probe of similar length using SP6 polymerase (see ABV76186). The probes  
XX were purified and used to determine IGF-I RNA in mouse hepatocytes and  
XX also in rat hepatocytes

XX Sequence 133 AA;

Query Match 89.6%; Score 537; DB 6; Length 133;  
Best Local Similarity 91.0%; Pred. No. 1.8e-45;  
Matches 101; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDLRLRLEY 60  
DB 23 GPEITCGALVDALQVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDLRLRLEY 82  
QY 61 CVRCKPTKARSIRAPQRTDMPKTKQSOPSLTHKKRKLQRRKSGSTLEEHK 111  
DB 83 CAPLCKTKARSIRAPQRTDMPKTKQSOPSLTHKKRKLQRRKSGSTLEEHK 133

#### RESULT 5

ADA23374  
ID ADA23374 standard; protein; 133 AA.

XX ADA23374;

DT 20-NOV-2003 (first entry)

XX Mouse MGF amino acid sequence.

XX ligand; antibody; mechano-growth factor; MGF; inotropic; cardiant;  
XX cell signaling; muscle damage; muscular dystrophy; cardiac muscle damage;  
XX muscle fatigue; heart attack.

OS Mus sp.

PN WO2003068949-A1.

PD 21-AUG-2003.

XX 14-FEB-2003; 2003WO-GB000657.

XX 14-FEB-2002; 2002GB-00003552.

XX (BEAU/) BEAUMONT N.

PI Beaumont N;

DR WPI; 2003-679637/64.

PT New peptides corresponding to the C terminus of creatine kinase have a  
PT similar function to mechano-growth factor and are useful to treat muscle  
PT damage such as exercise injury, muscular dystrophy and heart attack  
PT damage.

XX Disclosure; Fig 1; 21pp; English.

XX The present invention describes an isolated peptide capable of acting as  
XX a ligand for an antibody with affinity for the C-terminus of mechano-  
XX growth factor (MGF), for use in therapy, where the peptide is not MGF.  
XX Also described is an isolated peptide for use in therapy comprising the  
XX sequence (I) (X1)m(X2)n(X3)(X4)(X5)(X6)(X7)2(X8)p, where X1 = a basic  
XX residue, X2 and X8 = any amino acid, X3 and X4 = Lys or Glu, m = 2 or 3, n = 0  
XX Thr, Ala or Pro, X6 = Ile, Phe or Leu, X7 = Asp or Glu, m = 2 or 3, n = 0  
XX -2, and p = 2-6. (I) has inotropic and cardiant activities, and can be  
XX used in cell signaling. (I) can be used for the manufacture of a  
XX composition for the treatment of muscle damage, deterioration or injury,  
XX particularly damage to skeletal muscle, especially muscular dystrophy or  
XX damage to cardiac muscle, and to manufacture a composition for the repair  
XX of damage or loss of nerve cells. The peptide can be used in cell culture  
XX media to promote growth of muscle or nerve cell lines. The peptides are  
XX used to treat conditions associated with muscle fatigue and/or injury for  
XX example during exercise, and to treat muscle deterioration or damage for  
XX example after a heart attack. They may be useful to identify agents that  
XX potentiate or inhibit muscle or nerve cell growth, as a treatment to  
XX promote growth or repair of muscle or nerve cells in vivo and to inhibit  
XX apoptosis of precursor cells. The present sequence represents a mouse MGF



including a disorder of motoneurons and/or neurodegenerative disorder, e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive spinal muscular atrophy, infantile or juvenile muscular atrophy, poliomyelitis or post-polio syndrome, a disorder caused by exposure to a toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an injury that affects motoneurons, motoneuron loss associated with aging, autosomal or sex-linked muscular dystrophy, diabetic neuropathy, peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The present sequence is rat IGF-I isoform MGF. MGF is a muscle isoform having extracellular (Ec) domain, hence also referred as IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF

Sequence 111 AA;

Query Match 100.0%; Score 599; DB 4; Length 111;  
Best Local Similarity 100.0%; Pred. No. 1,1e-51;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIYDECCFRSCDLRLMEY 60  
DB 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIYDECCFRSCDLRLMEY 60

QY 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEHK 111  
DB 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEHK 111

RESULT 2

AAU10560  
ID AAU10560 standard; protein; 111 AA.

AC AAU10560;

DT 25-FEB-2002 (first entry)

DE Rat mechano-growth factor (MGF) polypeptide.

XX Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
XX neuromuscular; nerve damage; peripheral nervous system; nerve severing;  
XX muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
XX nerve avulsion.

OS Rattus sp.

PN WO200185781-A2.

XX 15-NOV-2001.

PF 10-MAY-2001; 2001WO-GB002054.

PR 10-MAY-2000; 2000GB-00011278.

PA (UNLO ) UNIV COLLEGE LONDON.

PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

PI Goldspink G, Terenghi G;

DR WPI; 2002-055585/07.

DR N-PSDB; AAS16878.

PT Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
XX growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
XX reduce motoneuron loss in response to nerve avulsion, to treat nerve  
XX damage.

PS Claim 11; Fig 6; 65pp; English.

CC The invention relates to the use of an insulin-like growth factor I (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture of a medicament for treating nerve damage in the peripheral nervous system, or for treating nerve damage by localising MGF at the site of damage. The CC nerve damage may include severing of a nerve. The treatment may be

CC combined with another treatment (such as a polypeptide growth factor  
CC other than MGF) that prevents or diminishes degeneration of the target  
CC organ (for example, muscle) which the damaged nerve innervates; whereby  
CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
CC prevents or diminishes degeneration. The method is useful for treating  
CC neurological disorders, preferably motoneuron disorders. These methods  
CC can reduce motoneuron loss by 20% or greater in response to nerve  
CC avulsion. This sequence represents the rat MGF polypeptide

Sequence 111 AA;

Query Match 100.0%; Score 599; DB 5; Length 111;  
Best Local Similarity 100.0%; Pred. No. 1,1e-51;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIYDECCFRSCDLRLMEY 60  
DB 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIYDECCFRSCDLRLMEY 60

QY 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEHK 111  
DB 61 CVRCKPTKSARSIRARHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEHK 111

RESULT 3

ABR63168  
ID ABR63168 standard; protein; 111 AA.

AC ABR63168;

DT 18-DEC-2003 (first entry)

DE Rat mechano growth factor (C-terminal end).

XX Mechano growth factor; MGF; insulin-like growth factor I; rat;  
XX splice variant; cardiac; vasotropic; gene therapy.

OS Rattus sp.

PN WO2003066082-A1.

XX 14-AUG-2003.

PF 06-FEB-2003; 2003WO-GB000537.

PR 07-FEB-2002; 2002GB-00002906.

PA (UNLO ) UNIV COLLEGE LONDON.

PA (UNIT ) UNIV ILLINOIS FOUND.

PI Goldspink G, Goldspink P;

DR WPI; 2003-636936/60.

DR N-PSDB; ACF79636.

PT Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
XX or limiting apoptosis in the myocardium, particularly for preventing or  
XX limiting myocardial damage in response to ischemia or mechanical overload  
XX of the heart.

PS Claim 5; Fig 8; 74pp; English.

CC The present sequence is that of the C-terminal end of novel rat mechano  
XX growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
XX splice variant and non-liver type isoform of insulin-like growth factor  
XX (IGF-I) that is activated in response to cardiac tissue damage and which  
XX has a repair function in the ischemic and/or overloaded heart. The rat  
XX MGF transcript has a 52 base insert in the B domain that alters the  
XX reading frame and hence the C-terminal end of MGF protein in comparison  
XX with other IGF-I splice variants. The invention provides use of a MGF  
XX polypeptide or polynucleotide in the manufacture of a medicament for the  
XX prevention or limitation of myocardial damage in response to ischemia or  
XX mechanical overload of the heart by preventing or limiting apoptosis in

APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/078  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-06-462-040-47

Query Match 61.3%; Score 367; DB 3; Length 78;  
Best Local Similarity 87.0%; Pred. No. 6.9e-35;  
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGPRGFYFNKPTVYGSIRAPQGTIVDECCFRSCDLRLLEMYCVR 63  
DB 2 TLGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEMYCAP 61  
QY 64 CKTKARSIRAPQHTD 80  
DB 62 LRPARSARVRAQHTD 78

## RESULT 15

US-07-953-230A-9  
Sequence 9, Application US/07953230A  
Patent No. 5476779

## GENERAL INFORMATION:

APPLICANT: CHEN, Thomas T  
APPLICANT: SHAMLOTT, Michael J  
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED  
TITLE OF INVENTION: FROM RAINBOW TROUT  
NUMBER OF SEQUENCES: 12  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Burns, Doane, Swecker & Mathis  
STREET: George Mason Bldg., Washington & Prince Sts.  
CITY: Alexandria  
STATE: Virginia

COUNTRY: United States

ZIP: 22113-1404

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/953,230A

FILING DATE: 30-SEP-1992

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Crane-Faury, Sharon E

REGISTRATION NUMBER: 36,113

REFERENCE/DOCKET NUMBER: 028755-010

TELECOMMUNICATION INFORMATION:

TELEPHONE: (703) 836-6620

TELEFAX: (703) 836-2021

INFORMATION FOR SEQ ID NO: 9:

SEQUENCE CHARACTERISTICS:

LENGTH: 176 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein  
US-07-953-230A-9

## Query Match

59.9%; Score 359; DB 1; Length 176;

Best Local Similarity 67.3%; Pred. No. 1.5e-33;

Matches 68; Conservative 8; Mismatches 25; Indels 0; Gaps 0;

QY 1 GPETLGGAEIVDALQFVCGPRGFYFNKPTVYGSIRAPQGTIVDECCFRSCDLRLLEMY 60  
DB 45 GPETLGGAEIVDTLQFVCGPRGFYFNKPTGYGSSRRSHNRGIVDECCFRSCDLRLLEMY 104  
QY 61 CVRCKPTKARSIRAPQHTDMPYTKSOPLSTHKKKIQRR 101  
DB 105 CAPVSKGAARSVRAQHTDMPRTPKVSTAVQSVDRGTER 145

Search completed: March 3, 2004, 08:06:37  
Job time: 14.0422 secs

ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FastSeq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/167,641C  
FILING DATE: December 14, 1993  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 205/012  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULAR TYPE: peptide  
US-08-167-641C-47

Query Match 61.3%; Score 367; DB 3; Length 78;  
Best Local Similarity 87.0%; Pred. No. 6.9e-35;  
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIYDECCFRSCDRLRLMYCVR 63  
DB 2 TLGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIYDECCFRSCDRLRLMYCAP 61

QY 64 CKPTKSARSIRARHTD 80  
DB 62 LRPARSARSVRARHTD 78

RESULT 13  
US-08-460-971A-47  
Sequence 47, Application US/08460971A  
Patent No. 6150168  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF INVENTION: METHODS OF USE  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FastSeq for Windows 2.0  
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,971A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/063  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULAR TYPE: peptide  
US-08-460-971A-47

Query Match 61.3%; Score 367; DB 3; Length 78;  
Best Local Similarity 87.0%; Pred. No. 6.9e-35;  
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIYDECCFRSCDRLRLMYCVR 63  
DB 2 TLGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIYDECCFRSCDRLRLMYCAP 61

QY 64 CKPTKSARSIRARHTD 80  
DB 62 LRPARSARSVRARHTD 78

RESULT 14  
US-08-462-040-47  
Sequence 47, Application US/08462040  
Patent No. 6177554  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF INVENTION: METHODS OF USE  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FastSeq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/462,040  
FILING DATE: June 5, 1995  
CLASSIFICATION: 536  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993

Db 146 CAPLPAKSAKRSVRAQHHTDMPKTX 172

RESULT 10  
US-09-528-108-41  
Sequence 41, Application US/09528108  
Patent No. 6312923  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave, Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/528.108  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/989,251  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spull, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-528-108-41

Query Match 68.9%; Score 412.5; DB 4; Length 191;  
Best local Similarity 89.7%; Pred. No. 1.2e-35;  
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPEICGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLNMY 60  
DB 86 GPEICGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLNMY 145

QY 61 CYRCAPETSA-RSIRAPQHTDMPKTX 86  
DB 146 CAPLPAKSAKRSVRAQHHTDMPKTX 172

RESULT 11  
US-08-460-890A-47  
Sequence 47, Application US/08460890A  
Patent No. 5994109  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gotichalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF SEQUENCES: 65  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
STREET: Suite 4700  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 MB  
COMPUTER: storage  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FastSeq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/460,890A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/066  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-460-890A-47

Query Match 61.3%; Score 367; DB 2; Length 78;  
Best local Similarity 87.0%; Pred. No. 6.9e-35;  
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLNMYCYR 63  
DB 2 TLGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLNMYCAP 61

QY 64 CKPTKARSIRAPQHTD 80  
DB 62 LRPARSARSVRAQHTD 78

RESULT 12  
US-08-167-641C-47  
Sequence 47, Application US/08167641C  
Patent No. 6033884  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gotichalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
TITLE OF SEQUENCES: 65  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
STREET: Suite 4700  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.

QY 1 GPEITCGALVLDALQFVCGPRGFYFNKPTVYSSIRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 Db 52 GPEITCGALVLDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 111  
 QY 61 CVRCKPTKSA-RSIRAPRHTDMPKTOK 86  
 Db 112 CAPLKPASARSVAQRHTDMPKTOK 137

RESULT 7  
 5405942-1  
 Patent No. 5405942  
 APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,  
 JAMES P.  
 TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS  
 I AND II  
 NUMBER OF SEQUENCES: 16  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/07/65,673  
 FILING DATE: 16-JUN-1987  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: 630,557  
 FILING DATE: 19-JUL-1984  
 SEQ ID NO: 1:  
 LENGTH: 119  
 5405942-1

Query Match 69.4%; Score 416; DB 6; Length 119;  
 Best Local Similarity 89.5%; Pred. No. 2.7e-40;  
 Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGALVLDALQFVCGPRGFYFNKPTVYSSIRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 Db 15 GPEITCGALVLDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 74  
 QY 61 CVRCKPTKSA-RSIRAPRHTDMPKTOK 86  
 Db 75 CAPLKPASARSVAQRHTDMPKTOK 100

RESULT 8  
 US-08-989-251-41  
 Sequence 41, Application US/08989251  
 Patent No. 6017731  
 GENERAL INFORMATION:  
 APPLICANT: Tekamp-Olson, Patricia  
 TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
 TITLE OF INVENTION: PROTEINS IN YEAST  
 NUMBER OF SEQUENCES: 41  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
 STREET: 3605 Glenwood Ave. Suite 310  
 CITY: Raleigh  
 STATE: NC  
 COUNTRY: US  
 ZIP: 27622  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patentin Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/989,251  
 FILING DATE:  
 CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Spullin, W. Murray  
 REGISTRATION NUMBER: 32,943  
 REFERENCE/DOCKET NUMBER: 5784-4  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 919 420 2202  
 TELEFAX: 919 881 3175

INFORMATION FOR SEQ ID NO: 41:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 191 amino acids  
 TYPE: amino acid  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 US-08-989-251-41

Query Match 68.9%; Score 412.5; DB 3; Length 191;  
 Best Local Similarity 89.7%; Pred. No. 1.2e-39;  
 Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPEITCGALVLDALQFVCGPRGFYFNKPTVYSSIRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 Db 86 GPEITCGALVLDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 145  
 QY 61 CVRCKPTKSA-RSIRAPRHTDMPKTOK 86  
 Db 146 CAPLKPASARSVAQRHTDMPKTOK 172

RESULT 9  
 US-09-340-250-41  
 Sequence 41, Application US/09340250  
 Patent No. 6083723  
 GENERAL INFORMATION:  
 APPLICANT: Tekamp-Olson, Patricia  
 TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
 TITLE OF INVENTION: PROTEINS IN YEAST  
 NUMBER OF SEQUENCES: 41  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
 STREET: 3605 Glenwood Ave. Suite 310  
 CITY: Raleigh  
 STATE: NC  
 COUNTRY: US  
 ZIP: 27622  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patentin Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/340,250  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: 08/989,251  
 FILING DATE:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Spullin, W. Murray  
 REGISTRATION NUMBER: 32,943  
 REFERENCE/DOCKET NUMBER: 5784-4  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 919 420 2202  
 TELEFAX: 919 881 3175  
 INFORMATION FOR SEQ ID NO: 41:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 191 amino acids  
 TYPE: amino acid  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 US-09-340-250-41

Query Match 68.9%; Score 412.5; DB 3; Length 191;  
 Best Local Similarity 89.7%; Pred. No. 1.2e-39;  
 Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPEITCGALVLDALQFVCGPRGFYFNKPTVYSSIRRAPQGTGIVDECCFRSCDLRLRLMY 60  
 Db 86 GPEITCGALVLDALQFVCGDRGFYFNKPTGYSSRRAPQGTGIVDECCFRSCDLRLRLMY 145  
 QY 61 CVRCKPTKSA-RSIRAPRHTDMPKTOK 86

STREET: One Liberty Place - 46th Floor  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: WORDPERFECT 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/219,878A  
FILING DATE: 30-MAR-1994  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/881,524  
FILING DATE: 08-MAY-1992  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark DeLuca  
REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TUTU-1240  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: amino acid  
TOPOLOGY: linear  
US-08-219-878A-1

Query Match 70.6%; Score 423; DB 1; Length 153;  
Best Local Similarity 90.7%; Pred. No. 5.8e-41;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 49 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSIRAPQGTIVDECCFRSCDLRLLEY 108

QY 61 CYRCKPTKSARSIRARHTDMPKTK 86  
DB 109 CAPLKPASARSVRAQRHTDMPKTK 134

RESULT 5  
PCT-US93-04329-1  
Sequence 1, Application PC/TUS9304329  
GENERAL INFORMATION:  
APPLICANT: Bradford A. Jameson and Renato Baserga  
TITLE OF INVENTION: IGF-1 Analogs  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Woodcock Washburn  
STREET: One Liberty Place - 46th Floor  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PS/2  
OPERATING SYSTEM: PC-DOS  
SOFTWARE: WORDPERFECT 5.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US93/04329  
FILING DATE: 19930507  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/881,524  
FILING DATE: 08-MAY-92  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark DeLuca

REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TUTU-0649  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: AMINO ACID  
TOPOLOGY: linear  
PCT-US93-04329-1

Query Match 70.6%; Score 423; DB 5; Length 153;  
Best Local Similarity 90.7%; Pred. No. 5.8e-41;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 49 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSIRAPQGTIVDECCFRSCDLRLLEY 108

QY 61 CYRCKPTKSARSIRARHTDMPKTK 86  
DB 109 CAPLKPASARSVRAQRHTDMPKTK 134

RESULT 6  
US-09-142-583A-11  
Sequence 11, Application US/09142583A  
Patent No. 6221842  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: NIXON & VANDERAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
STATE: VA  
COUNTRY: USA  
ZIP: 22201  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/142,583A  
FILING DATE: 29-Oct-1998  
CLASSIFICATION: <unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: WO PCT/GB97/00658  
FILING DATE: 11-MAR-1997  
APPLICATION NUMBER: GB 9605124.8  
FILING DATE: 11-MAR-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: SADOFF, B. U.  
REGISTRATION NUMBER: 36663  
REFERENCE/DOCKET NUMBER: 117-263  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 7038164000  
TELEFAX: 7038164100  
INFORMATION FOR SEQ ID NO: 11:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 156 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 11:  
US-09-142-583A-11

Query Match 70.6%; Score 423; DB 3; Length 156;  
Best Local Similarity 90.7%; Pred. No. 5.9e-41;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Db 11 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDRLRLMY 70

Qy 61 CVRCKPTKSARSIRARHTDMPKTQKQPLSTHKKRLQRRKSGSTLEEK 111  
Db 71 CAPLKPAAKARSVRAQRHTDMPKTQKQPLSTHKKRLQRRKSGSTLEEK 121

## RESULT 2

US-07-953-230A-10  
Sequence 10, Application US/07953230A  
Patent No. 5476779

## GENERAL INFORMATION:

APPLICANT: CHEN, Thomas T  
APPLICANT: SHAMLOTT, Michael J  
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED  
TITLE OF INVENTION: FROM RAINBOW TROUT  
NUMBER OF SEQUENCES: 12  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Burns, Doane, Swecker & Mathis  
STREET: George Mason Bldg., Washington & Prince Sts.  
CITY: Alexandria  
STATE: Virginia  
COUNTRY: United States  
ZIP: 2213-1404

## COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/953,230A  
FILING DATE: 30-SEP-1992

## CLASSIFICATION: 435

## ATTORNEY/AGENT INFORMATION:

NAME: Crane-Reuty, Sharon E  
REGISTRATION NUMBER: 36,113  
REFERENCE/DOCKET NUMBER: 028755-010

TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 836-6620  
TELEFAX: (703) 836-2021

INFORMATION FOR SEQ ID NO: 10:

## SEQUENCE CHARACTERISTICS:

LENGTH: 137 amino acids  
TYPE: amino acid

STRANDEDNESS: single  
TOPOLOGY: linear

MOLECULE TYPE: protein

## FEATURE:

NAME/KEY: Peptide  
LOCATION: 7  
OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:  
NAME/KEY: Peptide  
LOCATION: 31  
OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:  
NAME/KEY: Peptide  
LOCATION: 116  
OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10

Query Match 70.6%; Score 423; DB 1; Length 137;  
Best Local Similarity 90.7%; Pred. No. 5.1e-41;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Qy 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDRLRLMY 60

Db 33 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDRLRLMY 92

Qy 61 CVRCKPTKSARSIRARHTDMPKTQK 86

Db 93 CAPLKPAAKARSVRAQRHTDMPKTQK 118

## RESULT 3

US-08-950-720A-9  
Sequence 9, Application US/08950720A  
Patent No. 6046028

## GENERAL INFORMATION:

APPLICANT: Conklin, Darrell C.  
APPLICANT: Lofton-Day, Catherine E.  
APPLICANT: Lok, Si  
APPLICANT: Jasper, Stephen R.

TITLE OF INVENTION: INSULIN HOMOLOG  
NUMBER OF SEQUENCES: 17  
CORRESPONDENCE ADDRESS:

ADDRESSEE: ZymoGenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA

COUNTRY: USA  
ZIP: 98102

## COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FASTSEQ for Windows Version 2.0

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/950,720A  
FILING DATE:

CLASSIFICATION: 435  
Prior Application Number:

ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 96-09

TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678

INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 152 amino acids  
TYPE: amino acid

STRANDEDNESS: single  
TOPOLOGY: linear

MOLECULE TYPE: No. 6046028e

US-08-950-720A-9

Query Match 70.6%; Score 423; DB 3; Length 152;  
Best Local Similarity 90.7%; Pred. No. 5.7e-41;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Qy 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDRLRLMY 60

Db 23 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDRLRLMY 82

Qy 61 CVRCKPTKSARSIRARHTDMPKTQK 86

Db 83 CAPLKPAAKARSVRAQRHTDMPKTQK 108

US-08-219-878A-1

Sequence 1, Application US/08219878A  
Patent No. 5473054

## GENERAL INFORMATION:

APPLICANT: Bradford A. Jameson and Renato Baserga  
TITLE OF INVENTION: IGF-1 Analogs  
NUMBER OF SEQUENCES: 5  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Woodcock Washburn  
STREET: Kutz Mackiewicz & No. 5473054r1s

COUNTRY: USA  
ZIP: 98102

## COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FASTSEQ for Windows Version 2.0

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/950,720A  
FILING DATE:

CLASSIFICATION: 435  
Prior Application Number:

ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 96-09

TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678

INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 152 amino acids  
TYPE: amino acid

STRANDEDNESS: single  
TOPOLOGY: linear

MOLECULE TYPE: No. 6046028e

US-08-950-720A-9

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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:53:43 ; Search time 14.0422 Seconds

(without alignments)  
408,091 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599

Sequence: 1 GPETLCAELVDALQFVCGP.....THKKRKLQRRKSTLSEHK 111

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database :

Issued Patents\_AA:\*  
1: /cgn2\_6/ptodata/2/1aa/5A COMB.pep:\*  
2: /cgn2\_6/ptodata/2/1aa/5B COMB.pep:\*  
3: /cgn2\_6/ptodata/2/1aa/6A COMB.pep:\*  
4: /cgn2\_6/ptodata/2/1aa/6B COMB.pep:\*  
5: /cgn2\_6/ptodata/2/1aa/PCTUS COMB.pep:\*  
6: /cgn2\_6/ptodata/2/1aa/backfltest.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	512	85.5	121	3	US-09-142-583A-4
2	423	70.6	137	1	US-07-953-230A-10
3	423	70.6	152	3	US-08-950-720A-9
4	423	70.6	153	1	US-08-219-878A-1
5	423	70.6	153	5	PCT-US93-04329-1
6	423	70.6	156	3	US-09-142-583A-11
7	416	69.4	119	6	5405942-1
8	412.5	68.9	191	3	US-08-989-251-41
9	412.5	68.9	191	3	US-09-340-250-41
10	412.5	68.9	191	4	US-09-528-108-41
11	367	61.3	78	2	US-08-460-890A-47
12	367	61.3	78	3	US-08-167-641C-47
13	367	61.3	78	3	US-08-460-971A-47
14	367	61.3	78	3	US-08-462-040-47
15	359	59.9	176	1	US-07-953-230A-9
16	342	57.1	953	4	US-09-255-829-14
17	341	56.9	70	1	US-07-947-035-1
18	341	56.9	70	1	US-07-776-272-17
19	341	56.9	70	1	US-07-958-903A-17
20	341	56.9	70	1	US-08-462-018-17
21	341	56.9	70	1	US-08-823-245-17
22	341	56.9	70	3	US-08-482-271-1
23	341	56.9	70	3	US-09-080-120A-1
24	341	56.9	70	3	US-08-432-517-1
25	341	56.9	70	4	US-07-963-329A-1
26	341	56.9	70	4	US-09-477-924-1
27	341	56.9	70	4	US-09-723-981-1

28	341	56.9	70	4	US-09-723-896-1	Sequence 1, Appl
29	341	56.9	70	5	PCT-US92-0943A-1	Sequence 1, Appl
30	341	56.9	70	5	PCT-US93-11458-1	Sequence 1, Appl
31	341	56.9	70	5	PCT-US95-08925-1	Sequence 1, Appl
32	341	56.9	94	1	US-07-989-845-28	Sequence 28, Appl
33	341	56.9	94	1	US-07-989-844-12	Sequence 12, Appl
34	341	56.9	94	1	US-08-161-044-12	Sequence 12, Appl
35	341	56.9	94	1	US-08-240-121-12	Sequence 12, Appl
36	341	56.9	94	1	US-08-451-241-12	Sequence 12, Appl
37	341	56.9	94	5	PCT-US93-11297-12	Sequence 12, Appl
38	341	56.9	94	5	PCT-US93-11298-28	Sequence 28, Appl
39	341	56.9	118	3	US-09-029-267-14	Sequence 8, Appl
40	341	56.9	155	1	US-08-328-961-8	Sequence 8, Appl
41	341	56.9	155	1	US-08-462-397-8	Sequence 8, Appl
42	341	56.9	155	3	US-08-989-251-39	Sequence 39, Appl
43	341	56.9	155	3	US-09-340-250-39	Sequence 39, Appl
44	341	56.9	155	4	US-09-528-108-39	Sequence 39, Appl
45	338	56.4	70	1	US-08-180-572-5	Sequence 5, Appl

#### ALIGNMENTS

RESULT 1  
US-09-142-583A-4  
Sequence 4, Application US/09142583A  
Patent No. 6221842

#### GENERAL INFORMATION:

APPLICANT: GOLDSPIK, GEOFFREY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESSES:  
ADDRESSEE: NIXON & VANDERHAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22201

#### COMPUTER READABLE FORM:

MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/142,583A  
FILING DATE: 29-Oct-1998  
CLASSIFICATION: <Unknown>

#### PRIOR APPLICATION DATA:

APPLICATION NUMBER: NO PCT/GB97/00658  
FILING DATE: 11-MAR-1997  
APPLICATION NUMBER: GB 9605124.8  
FILING DATE: 11-MAR-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: SADOFF, B. J.  
REGISTRATION NUMBER: 36663  
REFERENCE/DOCKET NUMBER: 117-263  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 7038164000  
TELEFAX: 7038164100

#### INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:  
LENGTH: 121 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
US-09-142-583A-4

Query Match 85.5% ; Score 512; DB 3; Length 121;  
Best Local Similarity 86.5% ; Pred. No. 2.8e-51;  
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;  
Qy 1 GPETLCAELVDALQFVCGPFGFVFNKFTVYGSSIRRAPOTGIIVDCFRSCDLRLLEY 60



US-10-238-114-2

Query Match 69.8%; Score 418; DB 14; Length 153;  
Best Local Similarity 89.5%; Pred. No. 2.2e-39;  
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60  
DB 49 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 108  
QY 61 CVRCKPTKSA-RSIRARHTDMPKTOK 86  
DB 109 CAPLKPAAKSAKRSVRAQRHTDMPKTOK 134

## RESULT 15

US-09-921-398-41  
; Sequence 41, Application US/09921398  
; Patent No. US20020055169A1

## GENERAL INFORMATION:

APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
PROTEINS IN YEAST

NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSER: Bell Seltzer IP Group of Alston &amp; Bird, LLP

CITY: Raleigh

STATE: NC

COUNTRY: US

ZIP: 27622

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent in Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/921,398

FILING DATE: 02-Aug-2001

CLASSIFICATION: &lt;Unknown&gt;

ATTORNEY/AGENT INFORMATION:

NAME: Sprull, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: 5784-4

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919 420 2202

TELEFAX: 919 881 3175

INFORMATION FOR SEQ ID NO: 41:

SEQUENCE CHARACTERISTICS:

LENGTH: 191 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 41:

US-09-921-398-41

Query Match 68.9%; Score 412.5; DB 9; Length 191;

Best Local Similarity 89.7%; Pred. No. 1.2e-38;

Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60

DB 86 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 145

QY 61 CVRCKPTKSA-RSIRARHTDMPKTOK 86

DB 146 CAPLKPAAKSAKRSVRAQRHTDMPKTOK 172

Search completed: March 3, 2004, 08:14:23  
Job time: 151.455 secs

PRIOR APPLICATION NUMBER: US 60/329,650  
PRIOR FILING DATE: 2001-10-16  
NUMBER OF SEQ ID NOS: 4  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO 3  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-136-639-3

Query Match 70.6%; Score 423; DB 14; Length 153;  
Best Local Similarity 90.7%; Pred. No. 6.1e-40;  
Matches 76; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 49 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 108  
CY 61 CVRCKPTKSARSIRARHTDMPKTX 86  
DB 109 CAPLKPAKSARSVRARHTDMPKTX 134

RESULT 11  
US-10-207-655-55  
Sequence 55, Application US/10207655  
Publication No. US20030118592A1  
GENERAL INFORMATION:  
APPLICANT: Ledbetter, Jeffrey A.  
APPLICANT: Hayden-Ledbetter, Martha S.  
TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS  
FILE REFERENCE: 390069.401C1  
CURRENT APPLICATION NUMBER: US/10/207,655  
CURRENT FILING DATE: 2002-07-25  
NUMBER OF SEQ ID NOS: 426  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO 55  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-207-655-55

Query Match 70.6%; Score 423; DB 14; Length 153;  
Best Local Similarity 90.7%; Pred. No. 6.1e-40;  
Matches 76; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 49 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 108  
CY 61 CVRCKPTKSARSIRARHTDMPKTX 86  
DB 109 CAPLKPAKSARSVRARHTDMPKTX 134

RESULT 12  
US-09-852-261-14  
Sequence 14, Application US/09852261  
Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TERENSHI, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 14  
LENGTH: 105  
TYPE: PRT  
ORGANISM: Felis catus

ORGANISM: Oryctolagus cuniculus  
US-09-852-261-14

Query Match 70.1%; Score 420; DB 9; Length 105;  
Best Local Similarity 89.5%; Pred. No. 8.7e-40;  
Matches 77; Conservative 2; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
CY 61 CVRCKPTKSARSIRARHTDMPKTX 86  
DB 61 CAPLKPAKSARSVRARHTDMPKTX 86

RESULT 13  
US-10-238-114-3  
Sequence 3, Application US/10238114  
Publication No. US20030100073A1  
GENERAL INFORMATION:  
APPLICANT: Meriel  
APPLICANT: ANDREONI, Christine Michele  
TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE  
FILE REFERENCE: 454313-3165.1  
CURRENT APPLICATION NUMBER: US/10/238,114  
CURRENT FILING DATE: 2002-09-10  
PRIOR APPLICATION NUMBER: FR 01 11736  
PRIOR FILING DATE: 2001-09-11  
PRIOR APPLICATION NUMBER: US 60/318,666  
PRIOR FILING DATE: 2001-09-12  
NUMBER OF SEQ ID NOS: 20  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 3  
LENGTH: 105  
TYPE: PRT  
ORGANISM: Felis catus  
US-10-238-114-3

Query Match 69.8%; Score 418; DB 14; Length 105;  
Best Local Similarity 89.5%; Pred. No. 1.5e-39;  
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
DB 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQGTIVDECCFRSCDLRLLEY 60  
CY 61 CVRCKPTKSARSIRARHTDMPKTX 86  
DB 61 CAPLKPAKSARSVRARHTDMPKTX 86

RESULT 14  
US-10-238-114-2  
Sequence 2, Application US/10238114  
Publication No. US20030100073A1  
GENERAL INFORMATION:  
APPLICANT: Meriel  
APPLICANT: ANDREONI, Christine Michele  
TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE  
FILE REFERENCE: 454313-3165.1  
CURRENT APPLICATION NUMBER: US/10/238,114  
CURRENT FILING DATE: 2002-09-10  
PRIOR APPLICATION NUMBER: FR 01 11736  
PRIOR FILING DATE: 2001-09-11  
PRIOR APPLICATION NUMBER: US 60/318,666  
PRIOR FILING DATE: 2001-09-12  
NUMBER OF SEQ ID NOS: 20  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 2  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Felis catus

```

; TITLE OF INVENTION: NEUTRALIZING HUMAN ANTI-IGFR ANTIBODY
; FILE REFERENCE: OC0153-K-US
; CURRENT APPLICATION NUMBER: US/10/443,466A
; CURRENT FILING DATE: 2003-05-22
; PRIOR APPLICATION NUMBER: 60/383,459
; PRIOR FILING DATE: 2002-05-24
; PRIOR APPLICATION NUMBER: 60/393,214
; PRIOR FILING DATE: 2002-07-02
; PRIOR APPLICATION NUMBER: 60/436,254
; PRIOR FILING DATE: 2002-12-23
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 20
; LENGTH: 195
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-443-466A-20
```

```

Query Match      77.5%; Score 464; DB 15; Length 195;
Best Local Similarity 85.3%; Pred. No. 1,9e-44;
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
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Qy 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60
    |||||
Db 49 GPEITCGAELVDALQVCGDRGFYFNKPTGYSSSRRAPQTGIVDECCFRSCDLRLRLMY 108
    |||||
Qy 61 CVRCKPTKSARSIRAPQRTDMPKTXK 102
    |||||
Db 109 CAPLKPASARSVRAQRTDMPKTXK 150
    |||||
```

```

RESULT 7
US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; APPLICANT: TERENCE, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-852-261-10
```

```

Query Match      70.6%; Score 423; DB 9; Length 105;
Best Local Similarity 90.7%; Pred. No. 4e-40; Indels 0; Gaps 0;
Matches 78; Conservative 1; Mismatches 7;
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```

Qy 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60
    |||||
Db 1 GPEITCGAELVDALQVCGDRGFYFNKPTGYSSSRRAPQTGIVDECCFRSCDLRLRLMY 60
    |||||
Qy 61 CVRCKPTKSARSIRAPQRTDMPKTXK 86
    |||||
Db 61 CAPLKPASARSVRAQRTDMPKTXK 86
    |||||
```

```

RESULT 8
US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
; APPLICANT: Albertini, Cristina M.
; APPLICANT: Bear, Mark F.
; TITLE OF INVENTION: Methods and Compositions for Regulating
```

```

; TITLE OF INVENTION: Memory Consolidation
; FILE REFERENCE: 3499.1001-003
; CURRENT APPLICATION NUMBER: US/10/251,661
; CURRENT FILING DATE: 2002-09-20
; PRIOR APPLICATION NUMBER: 60/193,614
; PRIOR FILING DATE: 2000-03-31
; PRIOR APPLICATION NUMBER: PCT/US01/10661
; PRIOR FILING DATE: 2001-04-02
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 137
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-251-661-8
```

```

Query Match      70.6%; Score 423; DB 14; Length 137;
Best Local Similarity 90.7%; Pred. No. 5.4e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
```

```

Qy 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60
    |||||
Db 33 GPEITCGAELVDALQVCGDRGFYFNKPTGYSSSRRAPQTGIVDECCFRSCDLRLRLMY 92
    |||||
Qy 61 CVRCKPTKSARSIRAPQRTDMPKTXK 86
    |||||
Db 93 CAPLKPASARSVRAQRTDMPKTXK 118
    |||||
```

```

RESULT 9
US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US2002010662A1
; GENERAL INFORMATION:
; APPLICANT: Mutter, George L.
; TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
; FILE REFERENCE: B0801/725
; CURRENT APPLICATION NUMBER: US/09/919,497
; CURRENT FILING DATE: 2001-07-31
; PRIOR APPLICATION NUMBER: US 60/221,735
; PRIOR FILING DATE: 2000-07-31
; NUMBER OF SEQ ID NOS: 100
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
; LENGTH: 153
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-919-497-74
```

```

Query Match      70.6%; Score 423; DB 9; Length 153;
Best Local Similarity 90.7%; Pred. No. 6.1e-40; Indels 0; Gaps 0;
Matches 78; Conservative 1; Mismatches 7;
```

```

Qy 1 GPEITCGAELVDALQVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60
    |||||
Db 49 GPEITCGAELVDALQVCGDRGFYFNKPTGYSSSRRAPQTGIVDECCFRSCDLRLRLMY 108
    |||||
Qy 61 CVRCKPTKSARSIRAPQRTDMPKTXK 86
    |||||
Db 109 CAPLKPASARSVRAQRTDMPKTXK 134
    |||||
```

```

RESULT 10
US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
; APPLICANT: Lebowitz, Jonathan
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
; FILE REFERENCE: SYM-008
; CURRENT APPLICATION NUMBER: US/10/136,639
; CURRENT FILING DATE: 2002-09-06
```

```
GENERAL INFORMATION:
APPLICANT: Parrow, Vendela
APPLICANT: Rosengren, Linda
TITLE OF INVENTION: NEW METHODS
FILE REFERENCE: 13425-111001
CURRENT APPLICATION NUMBER: US/10/161,088
CURRENT FILING DATE: 2002-05-31
PRIOR APPLICATION NUMBER: SE 0101934-8
PRIOR FILING DATE: 2001-06-01
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 133
TYPE: PRT
ORGANISM: Homo sapiens
US-10-161-088-2

Query Match      89.6%; Score 537; DB 14; Length 133;
Best Local Similarity 91.0%; Pred. No. 6,8e-53;
Matches 101; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60
Db 23 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 82

QY 61 CVRCKPTKSARSIRARQHTDMPKTQKSQPLSTHKRKLQRRKSGSTLEEHK 111
Db 83 CAPLKPAAARSVRAQRHTDMPKTQKSPSLSTNKKTLQRRKSGSTLEEHK 133

RESULT 3
US-09-852-261-6
Sequence 6, Application US/09852261
Patent No. US20020083477A1
GENERAL INFORMATION:
APPLICANT: GOLDSPIRK, GEOFFREY
APPLICANT: TERENGHI, GIORGIO
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
FILE REFERENCE: 117-351
CURRENT APPLICATION NUMBER: US/09/852,261
CURRENT FILING DATE: 2001-05-10
PRIOR APPLICATION NUMBER: GB 0011278.9
PRIOR FILING DATE: 2000-05-10
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 6
LENGTH: 111
TYPE: PRT
ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

Query Match      85.5%; Score 512; DB 9; Length 111;
Best Local Similarity 86.5%; Pred. No. 3,7e-50;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60
Db 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60

QY 61 CVRCKPTKSARSIRARQHTDMPKTQKSQPLSTHKRKLQRRKSGSTLEEHK 111
Db 61 CAPLKPAAARSVRAQRHTDMPKTQKQPSSTNNKMSQRRKSGSTLEEHK 111

RESULT 4
US-09-852-261-2
Sequence 2, Application US/09852261
Patent No. US20020083477A1
GENERAL INFORMATION:
APPLICANT: GOLDSPIRK, GEOFFREY
APPLICANT: TERENGHI, GIORGIO
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
FILE REFERENCE: 117-351
```

```
CURRENT APPLICATION NUMBER: US/09/852,261
CURRENT FILING DATE: 2001-05-10
PRIOR APPLICATION NUMBER: GB 0011278.9
PRIOR FILING DATE: 2000-05-10
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-852-261-2

Query Match      82.6%; Score 494.5; DB 9; Length 110;
Best Local Similarity 85.6%; Pred. No. 3,5e-48;
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60
Db 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60

QY 61 CVRCKPTKSARSIRARQHTDMPKTQKSQPLSTHKRKLQRRKSGSTLEEHK 111
Db 61 CAPLKPAAARSVRAQRHTDMPKTQKQPSSTNNKMSQRRKSGSTLEEHK 110

RESULT 5
US-09-852-261-12
Sequence 12, Application US/09852261
Patent No. US20020083477A1
GENERAL INFORMATION:
APPLICANT: GOLDSPIRK, GEOFFREY
APPLICANT: TERENGHI, GIORGIO
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
FILE REFERENCE: 117-351
CURRENT APPLICATION NUMBER: US/09/852,261
CURRENT FILING DATE: 2001-05-10
PRIOR APPLICATION NUMBER: GB 0011278.9
PRIOR FILING DATE: 2000-05-10
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 12
LENGTH: 105
TYPE: PRT
ORGANISM: Rattus sp.
US-09-852-261-12

Query Match      78.6%; Score 471; DB 9; Length 105;
Best Local Similarity 100.0%; Pred. No. 1,5e-45;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60
Db 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPOTGIYDECCFRSCDLRLRLEMY 60

QY 61 CVRCKPTKSARSIRARQHTDMPKTQK 86
Db 61 CVRCKPTKSARSIRARQHTDMPKTQK 86

RESULT 6
US-10-443-466A-20
Sequence 20, Application US/10443466A
Publication No. US20040018191A1
GENERAL INFORMATION:
APPLICANT: Wang, Yan
APPLICANT: Pachter, Jonathan A
APPLICANT: Hailey, Judith
APPLICANT: Greenberg, Robert
APPLICANT: Leonard, Presta
APPLICANT: Brams, Peter
APPLICANT: Feingersh, Diane
APPLICANT: Williams, Denise
APPLICANT: Srinivasan, Mohan
```

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:55:33 ; Search time 151.455 Seconds  
(without alignments)  
154.752 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599

Sequence: 1 GPEITCGALVDALQFVCGP.....THKKKLCORRRKGSITLLEHK 111

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 809742 seqs, 21153259 residues

Total number of hits satisfying chosen parameters: 809742

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications\_AA.\*  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*  
2: /cgn2\_6/ptodata/1/pubpaa/PC1\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep.\*  
5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*  
6: /cgn2\_6/ptodata/1/pubpaa/PC10\_PUBCOMB.pep.\*  
7: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*  
9: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
11: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
12: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
13: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
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15: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
16: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
17: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
18: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	599	100.0	111	9	US-09-852-261-4
2	537	89.6	133	14	US-10-161-088-2
3	512	85.5	111	9	US-09-852-261-6
4	494.5	82.6	110	9	US-09-852-261-2
5	471	78.6	105	9	US-09-852-261-12
6	464	77.5	105	15	US-10-443-466A-20
7	423	70.6	105	9	US-09-852-261-10
8	423	70.6	137	14	US-10-251-661-8
9	423	70.6	153	9	US-09-919-497-74
10	423	70.6	153	14	US-10-136-639-3
11	423	70.6	153	14	US-10-207-655-55
12	420	70.1	105	9	US-09-852-261-14
13	418	69.8	105	14	US-10-238-114-3
14	418	69.8	153	14	US-10-238-114-2
15	412.5	68.9	191	9	US-09-921-398-41

16	412.5	68.9	191	14	US-10-280-826-41	Sequence 41, Appl
17	342	57.1	953	14	US-10-241-596-14	Sequence 14, Appl
18	341	56.9	70	9	US-09-848-664-29	Sequence 29, Appl
19	341	56.9	70	9	US-09-848-664-30	Sequence 30, Appl
20	341	56.9	70	9	US-09-903-327A-8	Sequence 8, Appl
21	341	56.9	70	10	US-09-858-935B-3	Sequence 3, Appl
22	341	56.9	70	13	US-10-028-410-1	Sequence 1, Appl
23	341	56.9	70	13	US-10-066-009A-1	Sequence 1, Appl
24	341	56.9	70	14	US-10-136-639-1	Sequence 1, Appl
25	341	56.9	70	14	US-10-136-841-7	Sequence 7, Appl
26	341	56.9	70	14	US-10-444-326-1	Sequence 1, Appl
27	341	56.9	70	15	US-10-272-533A-7	Sequence 7, Appl
28	341	56.9	70	15	US-10-272-483A-7	Sequence 7, Appl
29	341	56.9	70	16	US-10-444-262-1	Sequence 1, Appl
30	341	56.9	118	14	US-10-179-046-14	Sequence 14, Appl
31	341	56.9	155	9	US-09-921-398-39	Sequence 39, Appl
32	341	56.9	155	14	US-10-280-826-39	Sequence 39, Appl
33	341	56.9	510	9	US-09-903-327A-12	Sequence 12, Appl
34	334	55.8	91	14	US-10-323-046-42	Sequence 42, Appl
35	287	47.9	68	14	US-10-339-740-218	Sequence 218, Appl
36	269	44.9	56	13	US-10-066-009A-5	Sequence 5, Appl
37	223	37.2	180	14	US-10-207-655-57	Sequence 57, Appl
38	221	36.9	156	9	US-09-972-809-7	Sequence 7, Appl
39	221	36.9	180	14	US-10-081-119-38	Sequence 38, Appl
40	221	36.9	180	14	US-10-136-841-2	Sequence 2, Appl
41	221	36.9	180	14	US-10-097-340-145	Sequence 145, Appl
42	221	36.9	180	15	US-10-295-027-199	Sequence 199, Appl
43	221	36.9	180	15	US-10-272-533A-2	Sequence 2, Appl
44	221	36.9	180	15	US-10-173-999-99	Sequence 99, Appl
45	221	36.9	180	15	US-10-272-483A-2	Sequence 2, Appl

## ALIGNMENTS

RESULT 1  
US-09-852-261-4  
; Sequence 4, Application US/09852261  
; Patent No. US20020083477A1  
; GENERAL INFORMATION:  
; APPLICANT: GOLDSPINK, GEOFFREY  
; APPLICANT: TERENCE, GIORGIO  
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
; FILE REFERENCE: 117-351  
; CURRENT APPLICATION NUMBER: US/09/852,261  
; CURRENT FILING DATE: 2001-05-10  
; PRIOR APPLICATION NUMBER: GB 0011278.9  
; PRIOR FILING DATE: 2000-05-10  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 4  
; TYPE: PRT  
; ORGANISM: Rattus sp.  
US-09-852-261-4

Query Match 100.0%; Score 599; DB 9; Length 111;  
Best Local Similarity 100.0%; Pred. No. 5.4e-60;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGPFGYFNKPTVYGSIRAPOTGIYDECCFSCDLRLMEY 60  
DB 1 GPEITCGALVDALQFVCGPFGYFNKPTVYGSIRAPOTGIYDECCFSCDLRLMEY 60  
QY 61 CVRCKPTKARSIRAPQHTDMPYKQSPITKRRKLCORRRKGSITLLEHK 111  
DB 61 CVRCKPTKARSIRAPQHTDMPYKQSPITKRRKLCORRRKGSITLLEHK 111  
RESULT 2  
US-10-161-088-2  
; Sequence 2, Application US/10161088  
; Publication No. US2003007761A1

Biochem. J. 251, 95-103, 1988  
 A>Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biologic  
 A/Reference number: S00465; PMID:88268820; PMID:3390164  
 A/Accession: S00465  
 A/Molecule type: protein  
 A/Residues: 49-118 <PRA>  
 A/Experimental source: colostrum  
 A/Note: a form of IGF-I lacking the first three residues and possessing enhanced biologi  
 C/Superfamily: insulin  
 C/Keywords: alternative splicing; colostrum; growth factor; plasma  
 F:1-20/Domain: signal sequence (fragment) #status predicted <SIG>  
 F:22-48/Domain: propeptide #status predicted <PRO>  
 F:49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>  
 F:49-77/Domain: insulin B chain-like #status experimental <DOB>  
 F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>  
 F:90-110/Domain: insulin A chain-like #status experimental <DOA>  
 F:111-118/Domain: D peptide #status experimental <CHD>  
 F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>  
 F:54-96, 66-109, 95-100/Disulfide bonds: #status predicted

Query Match 69.8%; Score 418; DB 1; Length 153;  
 Best Local Similarity 89.5%; Pred. No. 3, 5e-35;  
 Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

Oy 1 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 60  
 Db 49 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 108  
 Oy 61 CVRCKPTKSARSIRAGHTDMPKTK 86  
 Db 109 CAPLKPAAKSARSYVAGHTDMPKAK 134

## RESULT 14

S12825  
 Insulin-like growth factor I precursor - pig

N/Alternate names: somatomedin C

C/Species: Sus scrofa domestica (domestic pig)

C/Date: 13-Jan-1995 #sequence\_revision 13-Jan-1995 #text\_change 16-Jul-1999

C/Accession: S12825; S21488; A34938; A60738

R/Mueller, M.; Brem, G.

Nucleic Acids Res. 18, 364, 1990

A>Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated re

A/Reference number: S12825; PMID:90221822; PMID:2326169

A/Accession: S12825

A/Status: preliminary

A/Molecule type: DNA

A/Residues: 1-153 <DOB>

A/Cross-references: EMBL:X52388

R/Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.

submitted to the EMBL Data Library, November 1989

A/Description: Porcine insulin-like growth factor gene: sequence of exon and 5' non-cod

A/Reference number: S21488

A/Accession: S21488

A/Molecule type: DNA

A/Residues: 1-21 <DIC>

A/Cross-references: EMBL:X17638; NID:91995; PIDN:CAA5632.1; FID:91996

R/Tavakoli, A.; Simmen, F.A.; Simmen, R.C.M.

Mol. Endocrinol. 2, 674-681, 1988

A>Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic a

es.

A/Reference number: A34938; PMID:89096956; PMID:3211153

A/Accession: A34938

A/Molecule type: mRNA

A/Residues: 1-21-153 <TAV>

A/Cross-references: GB:M31175

R/Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.

J. Endocrinol. 122, 681-687, 1989

A>Title: Purification, amino acid sequences and assay cross-reactivities of porcine insu

C/Genetics:

A/Introns: 21/3; 74/1

C/Superfamily: insulin

C/Keywords: growth factor

F:1-22/Domain: signal sequence #status predicted <SIG>

F:23-48/Domain: propeptide #status predicted <PRO>

F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 69.8%; Score 418; DB 2; Length 153;  
 Best Local Similarity 89.5%; Pred. No. 3, 5e-35;  
 Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

Oy 1 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 60  
 Db 49 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 108  
 Oy 61 CVRCKPTKSARSIRAGHTDMPKTK 86  
 Db 109 CAPLKPAAKSARSYVAGHTDMPKAK 134

## RESULT 15

S22878  
 Insulin-like growth factor I precursor, splice form 2 - sheep

C/Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C/Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 23-Jul-1999

C/Accession: S22878; S07198

R/Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A>Title: The ovine insulin-like growth factor-I gene: characterization, expression and

A/Reference number: S22877; PMID:91197361; PMID:2015053

A/Accession: S22878

A/Status: preliminary

A/Molecule type: DNA

A/Residues: 1-138 <DIC>

A/Cross-references: EMBL:X51358

R/Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A>Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.

A/Reference number: S07198; PMID:89136887; PMID:2537174

A/Accession: S07198

A/Molecule type: protein

A/Residues: 34-103 <FRA>

A/Experimental source: fetal plasma

C/Genetics:

A/Introns: 5/3; 59/1; 119/3

C/Superfamily: insulin

C/Keywords: alternative splicing; growth factor; plasma

F:7-33/Domain: propeptide #status predicted <PRO>

F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>

F:63-74/Domain: insulin chain B-like #status predicted <DOB>

F:63-74/Domain: insulin connecting peptide-like #status predicted <CHC>

F:75-95/Domain: insulin chain A-like #status predicted <DOA>

F:96-103/Domain: insulin peptide D #status predicted <CHD>

F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>

F:39-81, 51-94, 80-85/Disulfide bonds: #status predicted

Query Match 68.4%; Score 410; DB 2; Length 138;  
 Best Local Similarity 88.4%; Pred. No. 2, 1e-34;  
 Matches 76; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

Oy 1 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 60  
 Db 34 GPEITCGAEIVDALQVCGPRGFYFNKPTVYSSIRAPDTGIVDECCFRSCDRLRLMY 93  
 Oy 61 CVRCKPTKSARSIRAGHTDMPKTK 86  
 Db 94 CAPLKPAAKSARSYVAGHTDMPKAK 119

Search completed: March 3, 2004, 07:56:14  
 Job time: 11.7018 secs

A:Molecule type: mRNA  
 A:Residues: 1-153 <NOR>  
 A:Cross-references: EMBL:X56773; NID:932989; PIDN:CAA0092.1; PID:932990  
 R:Sandberg-Nordqvist, A.C.; Stahlbom, F.A.; Retnecke, M.; Collins, V.P.; von Holst, H.;  
 Cancer Res. 53, 2475-2478, 1993  
 A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.  
 A:Reference number: A48960; MUID:93265440; PMID:8495408  
 A:Accession: A48960  
 A:Molecule type: mRNA  
 A:Residues: 1-123, 'E', 125-132, 'E', 134-153 <SAN>  
 A:Cross-references: GB:X56773; GB:S61841; NID:932989  
 A:Experimental source: anaplastic oligodendroglioma  
 A:Note: sequence extracted from NCBI backbone (NCBI:133056, NCBI:133057)  
 A:Note: sequence inconsistent with the nucleotide translation  
 R:Rall, L.B.; Scott, J.; Bell, G.I.  
 Meth. Enzymol. 146, 239-249, 1987  
 A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of complemen  
 A:Reference number: 157044; MUID:88065102; PMID:3683205  
 A:Accession: 157044  
 A:Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: mRNA  
 A:Residues: 24-153 <RAL>  
 A:Cross-references: GB:M29644; NID:9183119; PIDN:AA52543.1; PID:9183120  
 A:Comment: The insulin-like growth factors, isolated from plasma, are structurally and  
 C:Comment: For an alternative splice form, see PIR:IGHUIB.  
 C:Genetics:  
 A:Gene: GDB:IGF1  
 A:Cross-references: GDB:120081; OMIM:147440  
 A:Map position: 12q22-12q24.1  
 A:Introns: 21/3; 74/1; 134/3  
 C:Superfamily: Insulin  
 C:Keywords: alternative splicing; growth factor; plasma  
 F:1-21/Domain: signal sequence #status predicted <SIG>  
 F:22-48/Domain: propeptide #status predicted <PRO>  
 F:49-118/Product: insulin chain B-like #status experimental <CHB>  
 F:49-77/Domain: insulin chain B-like #status experimental <CHB>  
 F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>  
 F:90-110/Domain: insulin chain A-like #status experimental <CHA>  
 F:111-118/Domain: D peptide #status experimental <CHD>  
 F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>  
 F:54-96, 66-109, 95-100/Disulfide bonds: #status predicted

Query Match 70.6%; Score 423; DB 1; Length 153;  
 Best Local Similarity 90.7%; Pred. No. 1.1e-35;  
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 60  
 DB 49 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 108

QY 61 CVRCKPTKSARSIRAPQRTDMPKTK 86  
 DB 109 CAPLKPAKSARSVRAQRHTDMPKTK 134

RESULT 11  
 JC2483  
 Insulin-like growth factor-I precursor - goat  
 C:Species: Capra aegagrus hircus (domestic goat)  
 C:Date: 16-Mar-1995 #sequence\_revision 26-May-1995 #text\_change 17-Mar-1999  
 C:Accession: JC2483  
 R:Ikawa, S.; Yoshikawa, G.; Aoki, H.; Yamao, Y.; Sakai, H.; Komano, T.  
 Biochem. Biotechnol. Biochem. 59, 87-92, 1995  
 A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF  
 A:Reference number: JC2483; MUID:95201385; PMID:7765981  
 A:Accession: JC2483  
 A:Molecule type: mRNA  
 A:Residues: 1-154 <MIK>  
 A:Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118; DDBJ:D26119  
 C:Genetics:  
 A:Introns: 21/3; 75/1; 135/3  
 C:Superfamily: Insulin  
 F:1-49/Domain: signal sequence #status predicted <SIG>

F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>  
 F:120-154/Region: E domain

Query Match 70.6%; Score 423; DB 2; Length 154;  
 Best Local Similarity 90.7%; Pred. No. 1.1e-35;  
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 60  
 DB 50 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 109

QY 61 CVRCKPTKSARSIRAPQRTDMPKTK 86  
 DB 110 CAPLKPTKSARSVRAQRHTDMPKTK 135

RESULT 12  
 PN0622  
 Insulin-like growth factor Ia precursor - dog (fragment)  
 C:Species: Canis lupus familiaris (dog)  
 C:Date: 10-Mar-1994 #sequence\_revision 10-Mar-1994 #text\_change 07-May-1999  
 C:Accession: PN0622  
 R:Belfontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.  
 Gene 130, 305-306, 1993  
 A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.  
 A:Reference number: PN0622; MUID:93366192; PMID:8359700  
 A:Accession: PN0622  
 A:Molecule type: mRNA  
 A:Residues: 1-122 <DEL>  
 A:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, act  
 C:Genetics:  
 A:Gene: IGF1a  
 C:Superfamily: Insulin  
 C:Keywords: growth factor  
 F:20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 69.8%; Score 418; DB 2; Length 122;  
 Best Local Similarity 89.5%; Pred. No. 2.9e-35;  
 Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 60  
 DB 20 GPEITCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRAPQTGIYDECCFRSCDLRLRLMY 79

QY 61 CVRCKPTKSARSIRAPQRTDMPKTK 86  
 DB 80 CAPLKPAKSARSVRAQRHTDMPKTK 105

RESULT 13  
 IGB01  
 Insulin-like growth factor Ia precursor - bovine (fragment)  
 N:Alternate names: IGF-I; somatomedin C  
 C:Species: Bos primigenius taurus (cattle)  
 C:Date: 31-Mar-1988 #sequence\_revision 28-Apr-1995 #text\_change 18-Jun-1999  
 C:Accession: S12672; A25623; S00465  
 R:Foris, T.; Murphy, C.; Gannon, F.  
 Nucleic Acids Res. 18, 676, 1990  
 A:Title: Nucleotide sequence of the bovine insulin-like growth factor I (IGF-I) and its  
 A:Reference number: S12672; MUID:90175014; PMID:2308858  
 A:Accession: S12672  
 A:Molecule type: mRNA  
 A:Residues: 1-153 <FOR>  
 A:Cross-references: EMBL:X15726; NID:9454; PIDN:CAA33746.1; PID:9455  
 A:Experimental source: liver  
 R:Honegger, A.; Humbel, R.E.  
 J. Biol. Chem. 261, 569-575, 1986  
 A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purificat  
 A:Reference number: A32589; MUID:86085881; PMID:3941093  
 A:Accession: A25623  
 A:Molecule type: protein  
 A:Residues: 49-118 <HON>  
 R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeill, K.A.; Wallace, J.C.

Db 23 GPEITLGAELVDALQFVCGRPFYFNKPTGYGSSIRAPQTGIYDECCFRSCDLRLNEMV 82

QY 61 CVACKPTKARSIRARQHTDMPKTOK 86  
Db 83 CAPLKPTKARSIRARQHTDMPKTOK 108

## RESULT 8

IGF1  
Insulin-like growth factor I precursor - guinea pig  
C/Species: Cavia porcellus (guinea pig)  
C/Date: 30-Sep-1991 #sequence\_revision 30-Sep-1991 #text\_change 07-Nov-1997  
C/Accession: S12719  
R/Bell, G.I., Stempien, M.M., Fong, N.M., Seino, S.  
Nucleic Acids Res. 18, 4275, 1990  
A/Title: Sequence of a cDNA encoding guinea pig IGF-I.  
A/Reference number: S12719; MUID:90332447; PMID:2377480  
A/Accession: S12719  
A/Molecule type: mRNA  
A/Residues: 1-137 <BEL>  
A/Cross-references: EMBL:X52951  
A/Note: It is uncertain whether Met-1 or Met-8 is the initiator  
C/Superfamily: Insulin  
C/Keywords: glycoprotein; growth factor; plasma  
F/1-32/Domain: signal sequence #status predicted <SIG>  
F/33-102/Product: insulin-like growth factor I #status predicted <WAT>  
F/33-61/Domain: insulin chain B-like #status predicted <CHB>  
F/62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>  
F/74-94/Domain: insulin chain A-like #status predicted <CHA>  
F/95-102/Domain: D peptide #status predicted <CHD>  
F/103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>  
F/124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 70.6%; Score 423; DB 1; Length 137;  
Best Local Similarity 90.7%; Pred. No. 9.9e-36;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGRPFYFNKPTGYGSSIRAPQTGIYDECCFRSCDLRLNEMV 60  
Db 33 GPEITLGAELVDALQFVCGRPFYFNKPTGYGSSIRAPQTGIYDECCFRSCDLRLNEMV 92

QY 61 CVACKPTKARSIRARQHTDMPKTOK 86  
Db 93 CAPLKPTKARSIRARQHTDMPKTOK 118

## RESULT 9

A36552  
Insulin-like growth factor Ia precursor - human  
C/Species: Homo sapiens (man)  
C/Date: 12-Apr-1991 #sequence\_revision 12-Apr-1991 #text\_change 16-Jul-1999  
C/Accession: A36552  
R/Robin, G.; Yee, D.; Bruneaux, N.; Rotwein, P.  
Mol. Endocrinol. 4, 1914-1920, 1990  
A/Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal  
A/Reference number: A36552; MUID:91187000; PMID:2082190  
A/Accession: A36552  
A/Status: Preliminary  
A/Molecule type: mRNA  
A/Residues: 1-137 <ROB>  
A/Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834  
C/Superfamily: Insulin

Query Match 70.6%; Score 423; DB 2; Length 137;  
Best Local Similarity 90.7%; Pred. No. 9.9e-36;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGRPFYFNKPTGYGSSIRAPQTGIYDECCFRSCDLRLNEMV 60  
Db 33 GPEITLGAELVDALQFVCGRPFYFNKPTGYGSSIRAPQTGIYDECCFRSCDLRLNEMV 92

QY 61 CVACKPTKARSIRARQHTDMPKTOK 86

Db 93 CAPLKPTKARSIRARQHTDMPKTOK 118

## RESULT 10

IGF1  
Insulin-like growth factor I precursor, splice form A [validated] - human  
N/Alternate names: IGF-I long splice form precursor; IGF-1A; somatomedin C  
C/Species: Homo sapiens (man)  
C/Date: 24-Apr-1984 #sequence\_revision 30-Jun-1987 #text\_change 31-Dec-2000  
C/Accession: A92581; A23614; A93321; J70571; A23622; A92226; A60483; S30519; A48960; 1  
R/Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.  
J. Biol. Chem. 261, 4828-4832, 1986  
A/Title: Organization and sequence of the human insulin-like growth factor I gene. Alt  
A/Reference number: A92581; MUID:86168194; PMID:2937782  
A/Accession: A92581  
A/Molecule type: DNA  
A/Residues: 1-153 <ROT>  
A/Cross-references: GB:M4156; NID:g183107; PIDN:AAA52538.1; PID:g183110  
R/de Pagter-Holthuisen, P.; van Schaik, F.M.A.; Verdulijn, G.M.; van Ommen, G.J.B.; Bou  
FBBS Lett. 195, 179-184, 1986  
A/Title: Organization of the human genes for insulin-like growth factors I and II.  
A/Reference number: A93321; MUID:86108862; PMID:3002851  
A/Accession: A23614  
A/Molecule type: DNA  
A/Residues: 24-153 <DEP>  
A/Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB:  
R/Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.  
Nature 306, 609-611, 1983  
A/Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.  
A/Reference number: A93321; MUID:84068210; PMID:6358902  
A/Accession: A93321  
A/Molecule type: mRNA  
A/Residues: 1-153 <JAN>  
A/Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016  
A/Note: Met-24 is proposed as a likely initiator  
R/Steenberg, P.H.; Koonen-Reenst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.  
Biochem. Biophys. Res. Commun. 175, 507-514, 1991  
A/Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.  
A/Reference number: J70571; MUID:91207342; PMID:2018498  
A/Accession: J70571  
A/Molecule type: mRNA  
A/Residues: 1-153 <STB>  
A/Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008  
R/le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeijer, P.  
FBBS Lett. 196, 108-112, 1986  
A/Title: Complete characterization of the human IGF-I nucleotide sequence isolated fr  
A/Reference number: A23622; MUID:86108910; PMID:2935423  
A/Accession: A23622  
A/Molecule type: mRNA  
A/Residues: 1-153 <LEB>  
A/Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927  
R/Rinderknecht, E.; Humbel, R.E.  
J. Biol. Chem. 253, 2769-2776, 1978  
A/Title: The amino acid sequence of human insulin-like growth factor I and its structu  
A/Reference number: A92226; MUID:78130171; PMID:633300  
A/Accession: A92226  
A/Molecule type: Protein  
A/Residues: 49-118 <RIN>  
R/Karey, K.P.; Marguaret, H.; Sirbasku, D.A.  
Blood 74, 1084-1092, 1989  
A/Title: Human platelet-derived microparticles. Identification of insulinlike growth factors  
A/Reference number: A60483; MUID:89323462; PMID:2752153  
A/Accession: A60483  
A/Molecule type: Protein  
A/Residues: 49-53, X, 55-65, X, 67-75 <KAR>  
A/Experimental source: Platelet lysate  
R/Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Saxe, V.R.  
Submitted to the EMBL Data Library, November 1990  
A/Description: Nucleotide sequence of the human fetal brain IGF-1a.  
A/Reference number: S30519  
A/Accession: S30519  
A/Status: Preliminary



F:54-96,66-109,95-100/Disulfide bonds: #stratus predicted  
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl  
Query Match 77.5%; Score 464; DB 1; Length 195;  
Best Local Similarity 85.3%; Pred. No. 9,5e-40;  
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;  
QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPOGTIVDECCFRSCDLRLRLEMY 60  
DB 49 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPOGTIVDECCFRSCDLRLRLEMY 108  
QY 61 CVRCKPTKSARSIRRAQRTDMPKTKSQPLSTHKKRKLQRRR 102  
DB 109 CAPLKPAKSARSIRRAQRTDMPKTKSQPLSTHKKRKLQRRR 150  
RESULT 6  
B27804  
Insulin-like growth factor IA precursor - rat  
N:Alternate names: IGF-1A; somatomedin C  
C:Species: Rattus norvegicus (Norway rat)  
C:Date: 16-Mar-1989 #sequence revision 16-Mar-1989 #text change 21-Jul-2000  
C:Accession: B27804; A27849; J010133; A28504; J00088; A32857; A61096  
R:Shimatsu, A.; Rotwein, P.  
J. Biol. Chem. 262, 7894-7900, 1987  
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, at  
A:Reference number: A27849; PMID:87222423; PMID:3034909  
A:Accession: A27849  
A:Molecule type: mRNA  
A:Residues: 27-153 <CDS>  
A:Cross-references: GB:M17335; NID:G204751; PIDN:AAA4186.1; PID:G204752  
R:Kato, H.; Okoshi, A.; Mura, Y.; Noguchi, T.  
Agric. Biol. Chem. 54, 1599-1601, 1990  
A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth  
A:Reference number: J010133; PMID:91103966; PMID:1368571  
A:Accession: J010133  
A:Molecule type: mRNA  
A:Residues: 27-153 <KAT>  
A:Cross-references: GB:D00698; NID:G220780; PIDN:BA00604.1; PID:G220781  
A:Experimental source: liver  
R:Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.  
Endocrinology 121, 684-691, 1987  
A:Title: Identification, characterization, and regulation of a rat complementary deoxyri  
A:Reference number: A28504; PMID:87246437; PMID:3595538  
A:Accession: A28504  
A:Molecule type: mRNA  
A:Residues: 46-153 <MNR>  
A:Cross-references: GB:M17714; NID:G204324; PIDN:AAA4127.1; PID:G204325  
R:Kato, H.; Takekura, A.; Mura, Y.; Nishiyama, M.; Noguchi, T.  
Agric. Biol. Chem. 54, 2225-2230, 1990  
A:Title: Evidence of introduction by molecular cloning of artificial inverted sequence a  
A:Reference number: J00088; PMID:91136779; PMID:1368576  
A:Accession: J00088  
A:Molecule type: mRNA  
A:Residues: 75A2P, 22-153 <A2>  
A:Experimental source: liver  
A:Note: the authors present evidence that this mRNA may contain an artifactual inversion  
R:Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niva, M.  
J. Biol. Chem. 264, 5616-5621, 1989  
A:Title: Primary structure of rat insulin-like growth factor-I and its biological activi  
A:Reference number: A32857; PMID:89174609; PMID:5538424  
A:Accession: A32857  
A:Molecule type: protein  
A:Residues: 49-118 <TAM>  
R:Canalis, E.; McCarthy, T.; Centrella, M.

Endocrinology 122, 22-27, 1988  
A:Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C) f  
A:Reference number: A61096; PMID:88082445; PMID:3335205  
A:Accession: A61096  
A:Molecule type: protein  
A:Residues: 49-53, 'X', 55-65 <CAN>  
C:Superfamily: insulin  
C:Keywords: alternative splicing; growth factor  
F:42-118/Product: insulin-like growth factor I #status experimental <ILS>  
Query Match 74.0%; Score 443; DB 2; Length 153;  
Best Local Similarity 95.3%; Pred. No. 1e-37;  
Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;  
QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPOGTIVDECCFRSCDLRLRLEMY 60  
DB 49 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPOGTIVDECCFRSCDLRLRLEMY 108  
QY 61 CVRCKPTKSARSIRRAQRTDMPKTKSQPLSTHKKRKLQRRR 86  
DB 109 CAPLKPAKSARSIRRAQRTDMPKTKSQPLSTHKKRKLQRRR 134  
RESULT 7  
A25540  
Insulin-like growth factor IA precursor - mouse  
N:Alternate names: IGF-1A; somatomedin C  
C:Species: Mus musculus (house mouse)  
C:Date: 30-Jun-1988 #sequence revision 30-Jun-1988 #text change 16-Jul-1999  
C:Accession: A25540; I55295; I59090; B25540  
R:Beil, G.I.; Stempfen, M.M.; Fong, N.M.; Rall, L.B.  
Nucleic Acids Res. 14, 7873-7882, 1986  
A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factor  
A:Reference number: A93643; PMID:87040760; PMID:3774549  
A:Accession: A25540  
A:Molecule type: mRNA  
A:Residues: 1-127 <BEL>  
A:Cross-references: GB:X04480; NID:G51801; PIDN:CAA28168.1; PID:G51802  
R:Tollfreen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.  
J. Biol. Chem. 264, 13810-13817, 1989  
A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I, t  
A:Reference number: I55295; PMID:89340472; PMID:2474537  
A:Accession: I55295  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 49-108 <RES>  
A:Cross-references: GB:M28139; NID:G341835; PIDN:AAA74553.1; PID:G550489  
R:Mathews, L.S.; Norstedt, G.; Palmieri, R.D.  
Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986  
A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone.  
A:Reference number: I59090; PMID:87092249; PMID:3467309  
A:Accession: I59090  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 49-108 <RES>  
A:Cross-references: GB:M14983; NID:G194495; PIDN:AAA7925.1; PID:G194496  
A:Gene: IGF1  
C:Superfamily: insulin  
C:Keywords: alternative splicing; growth factor  
F:1-22/Domain: signal sequence #status predicted <SIG>  
F:23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>  
F:23-51/Domain: insulin chain B-like #status predicted <DOB>  
F:52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>  
F:64-84/Domain: insulin chain A-like #status predicted <DOA>  
F:85-92/Domain: D peptide #status predicted <DOP>  
F:93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>  
Query Match 73.5%; Score 440; DB 2; Length 127;  
Best Local Similarity 94.2%; Pred. No. 1.8e-37;  
Matches 81; Conservative 1; Mismatches 4; Indels 0; Gaps 0;  
QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPOGTIVDECCFRSCDLRLRLEMY 60

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QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 49 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGSTLEEHK 111
DB 109 CAPLKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGSTLEEHK 159

RESULT 3
A27804
insulin-like growth factor I precursor - rat
C/Species: Rattus norvegicus (Norway rat)
C/Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C/Accession: A27804; 165202
R/Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A/Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and
A/Reference number: A27804; MUID:87222423; PMID:3034909
A/Accession: A27804
A/Molecule type: DNA
A/Status: preliminary
A/Residues: 1-181 <SHI>
A/Cross-references: GB:M15650; GB:J02743; NID:G204296; PIDN:AAA4124.1; PID:G204299
R/Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A/Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A/Reference number: 152218; MUID:87238553; PMID:3619921
A/Accession: 165202
A/Status: preliminary; translated from GB/EMBL/DDBI
A/Molecule type: mRNA
A/Residues: 1-27 <RBS>
A/Cross-references: GB:M17594; NID:G204759; PIDN:AAA41390.1; PID:G204760
C/Superfamily: insulin
C/Keywords: alternative splicing

Query Match 89.5%; Score 536; DB 2; Length 181;
Best Local Similarity 94.3%; Pred. No. 4.5e-47;
Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 49 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGST 106
DB 109 CAPLKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGES 154

RESULT 4
B40912
insulin-like growth factor I precursor form 2 - rat
C/Species: Rattus norvegicus (Norway rat)
C/Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C/Accession: B40912
R/Roberts Jr., C.T.; Laeky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A/Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonucleic
A/Accession: A40912; MUID:88288196; PMID:3453891
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-127 <ROB>
A/Cross-references: GB:M15481; NID:G204753; PIDN:AAA41387.1; PID:G204754
C/Superfamily: insulin

Query Match 77.5%; Score 464; DB 2; Length 127;
Best Local Similarity 98.8%; Pred. No. 6.5e-40;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 49 GPEITLGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGST 106
DB 109 CAPLKPTKSARSIRAPQHTDMPKTQKSOPLSTHKRKLQRRRKGES 154

RESULT 5
IGHUB
insulin-like growth factor I precursor, splice form B [validated] - human
N/Alternate names: IGF-1b; somatomedin C
N/Contents: insulin-like growth factor 1b-E1 amide
C/Species: Homo sapiens (man)
C/Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C/Accession: A01611; A26181; S30540; B48960; A42664
R/Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A/Title: Organization and sequence of the human insulin-like growth factor I gene. Alt
A/Reference number: A92581; MUID:86168194; PMID:2937782
A/Accession: A01611
A/Molecule type: DNA
A/Residues: 1-195 <RO1>
A/Cross-references: GB:M4155; NID:G183106; PIDN:AAA52537.1; PID:G183109
R/Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A/Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.
A/Reference number: A26181; MUID:86094355; PMID:3455760
A/Accession: A26181
A/Molecule type: mRNA
A/Residues: 1-195 <RO2>
A/Cross-references: GB:M1568; NID:G183111; PIDN:AAA52539.1; PID:G183112
R/Sandberg Nordqvist, A.C.; Stahldom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A/Description: Nucleotide sequence of the human fetal brain IGF-1b.
A/Reference number: S30540
A/Accession: S30540
A/Molecule type: mRNA
A/Residues: 1-195 <SAN>
A/Cross-references: EMBL:X56774; NID:G32991; PIDN:CAA40093.1; PID:G32992
R/Sandberg Nordqvist, A.C.; Stahldom, P.A.; Reincke, M.; Collins, V.P.; von Holst, H.
Cancer Res. 53, 2475-2478, 1993
A/Title: Characterization of insulin-like growth factor 1 in human primary brain tumor
A/Reference number: A48960; MUID:93265440; PMID:8495408
A/Accession: B48960
A/Molecule type: mRNA
A/Residues: 1-195 <SA>
A/Cross-references: GB:X56774; GB:S61860; NID:G32991; PIDN:CAA40093.1; PID:G32992
A/Experimental source: anaplastic oligodendroglioma
A/Note: sequence modified after extraction from NCBI backbone
A/Note: the authors translated the codon CAG for residues 124 and 133 as GUU
R/Siegfried, J.M.; Kaepitzky, P.G.; Trescott, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitt
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A/Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-
A/Reference number: A42664; MUID:93390398; PMID:135566
A/Contents: annotation; 1bE-1; amidated carboxyl end
C/Comment: For an alternative splice form, see PIR:IGHU1.
C/Genetics:
A/Gene: GDB:IGF1
A/Cross-references: GDB:120081; OMIM:147440
A/Map position: 12q22-12q24.1
A/Introns: 21/3; 74/1; 134/3
C/Superfamily: insulin
C/Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
P1-21/Dominant: signal sequence #status predicted <SIG>
P1-22/48/Dominant: propeptide #status predicted <PRO>
P1-49-77/Dominant: insulin-like growth factor I #status predicted <MAT>
P1-78-69/Dominant: insulin chain B-like #status predicted <CHB>
P1-90-110/Dominant: insulin connecting C peptide-like #status predicted <CHC>
P1-111-118/Dominant: insulin chain A-like #status predicted <CHA>
P1-119-195/Dominant: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
P1-151-172/Product: insulin-like growth factor 1b-E1 amide #status predicted <MA2>
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 11.7018 Seconds  
(without alignments)  
912.445 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599  
Sequence: 1 GPEITLGAELVDALQFVCGP.....THKRRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-Processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :  
1: p1r1:\*  
2: p1r2:\*  
3: p1r3:\*  
4: p1r4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	592	98.8	133	2	A40912 insulin-like growth
2	571	95.3	159	2	A26859 insulin-like growth
3	536	89.5	181	2	A27804 insulin-like growth
4	464	77.5	127	2	B40912 insulin-like growth
5	443	77.0	195	1	IGHUB insulin-like growth
6	443	74.0	153	2	B27804 insulin-like growth
7	440	73.5	127	2	A25540 insulin-like growth
8	423	70.6	137	1	IGEP1 insulin-like growth
9	423	70.6	137	2	A36552 insulin-like growth
10	423	70.6	153	1	IGHU1 insulin-like growth
11	423	70.6	154	2	JC2483 insulin-like growth
12	418	69.8	122	2	PN0622 insulin-like growth
13	418	69.8	153	1	IGBO1 insulin-like growth
14	418	69.8	153	2	SI2825 insulin-like growth
15	410	66.4	138	2	S22878 insulin-like growth
16	410	66.4	154	2	A33390 insulin-like growth
17	384	64.1	153	2	A41399 insulin-like growth
18	376.5	62.9	153	2	A36079 insulin-like growth
19	362.5	60.5	161	2	C54270 insulin-like growth
20	361	60.3	155	2	C44012 insulin-like growth
21	361	60.3	176	2	A41396 insulin-like growth
22	361	60.3	188	2	A54270 insulin-like growth
23	360	60.1	149	2	D54270 insulin-like growth
24	359	59.9	176	2	A46244 insulin-like growth
25	279.5	46.7	126	2	S66485 insulin-like growth
26	279	46.6	193	2	A53697 insulin-like growth
27	249	41.6	214	2	B46244 insulin-like growth
28	233	38.9	155	1	IGBO2 insulin-like growth

30	232	38.7	179	2	S04858	insulin-like growth
31	224	37.4	197	2	T10897	insulin-like growth
32	223	37.2	139	2	A38612	insulin-like growth
33	222	37.1	181	2	B60738	insulin-like growth
34	221	36.9	180	1	IGHU2	insulin-like growth
35	219.5	36.6	183	2	S02423	insulin-like growth
36	216	36.1	128	2	I57671	insulin-like growth
37	215	35.9	93	2	I53642	insulin-like growth
38	212	35.4	180	2	A24813	insulin-like growth
39	211.5	35.3	183	2	I67610	insulin-like growth
40	209.5	35.0	180	1	IGRT2	insulin-like growth
41	204	34.1	210	2	S66484	insulin-like growth
42	184.5	30.8	79	2	I51240	insulin-like growth
43	181	30.2	66	2	A60740	insulin-like growth
44	159	26.5	44	2	A34049	insulin-like growth
45	152.5	25.5	50	1	INPIS	insulin - shortor

## ALIGNMENTS

## RESULT 1

A40912  
insulin-like growth factor I precursor form 1 - rat  
C/Species: Rattus norvegicus (Norway rat)  
C/Date: 28-Feb-1992 #sequence\_revision 28-Feb-1992 #text\_change 16-Jul-1999  
C/Accession: A40912  
M:Roberts Jr., C.T.; Laaky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; Leinich, D.  
Mol. Endocrinol. 1, 243-248, 1987  
A/Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonuc  
c lissues.  
C/Reference number: A40912; PMID:88288198; PMID:3453891  
A/Accession: A40912  
A/Status: preliminary  
A/Molecule type: mRNA  
A/Residues: 1-133 <ROB>  
A/Cross-References: GB:M15480; NID:9204749; PIDN:AAA41385.1; PID:9204750  
C/Superfamily: Insulin

Query Match 98.8%; Score 592; DB 2; Length 133;  
Best Local Similarity 99.1%; Pred. No. 7.3e-53;  
Matches 110; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GPEITLGAELVDALQFVCGPGRGYFNKPTVYGSIRAPQTGIVDECCFRSCDRLRLMY 60  
DB 23 GPEITLGAELVDALQFVCGPGRGYFNKPTVYGSIRAPQTGIVDECCFRSCDRLRLMY 82  
OY 61 CVRCKPTKSARSIRAPQHTDMPKTKSOPSTHKKRKLQRRRKGSTLEEHK 111  
DB 83 CVRCKPTKSARSIRAPQHTDMPKTKSOPSTHKKRKLQRRRKGSTLEEHK 133

RESULT 2  
A26859  
insulin-like growth factor IB precursor - rat  
C/Species: Rattus norvegicus (Norway rat)  
C/Date: 19-Nov-1988 #sequence\_revision 19-Nov-1988 #text\_change 16-Jul-1999  
C/Accession: A26859  
R/Shimatsu, A.; Rotwein, P.  
Nucleic Acids Res. 15, 7196, 1987  
A/Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5' l  
A/Reference number: A26859; PMID:88015572; PMID:3658684  
A/Accession: A26859  
A/Molecule type: mRNA  
A/Residues: 1-159 <SHI>  
A/Cross-References: GB:X06107; GB:M32260; GB:Y00429; NID:956424; PIDN:CAA29480.1; PID:956  
C/Superfamily: Insulin  
C/Keywords: alternative splicing; growth factor

Query Match 95.3%; Score 571; DB 2; Length 159;  
Best Local Similarity 96.4%; Pred. No. 1.1e-50;  
Matches 107; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

RA Rotwein P., Kajimoto Y.;  
RT "Structure of the chicken insulin-like growth factor I gene reveals  
RT conserved promoter elements.";  
RL J. Biol. Chem. 266:9724-9731(1991).  
RN [3]  
RP SEQUENCE OF 49-118.  
RX MEDLINE=91106695; PubMed=2272467;  
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,  
RT "Chicken insulin-like growth factor-I: amino acid sequence,  
RT radioimmunoassay, and plasma levels between strains and during  
RT growth.";  
RL Gen. Comp. Endocrinol. 79:459-468(1990).  
CC -I- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -I- SUBCELLULAR LOCATION: Secreted.  
CC -I- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
DR EMBL; M32791; AAA48828.1; -;  
DR EMBL; M74176; AAA48829.1; -;  
DR PIR; A41399; A41399.  
DR HSSP; P01343; IGFI.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PR00277; INSULINB.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 48  
FT PROPEP ?  
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 49 77 B.  
FT DOMAIN 78 89 C.  
FT DOMAIN 90 110 A.  
FT DOMAIN 111 118 D.  
FT PROPEP 119 153 E. PEPTIDE.  
FT DISULFID 54 96 BY SIMILARITY.  
FT DISULFID 66 109 BY SIMILARITY.  
FT DISULFID 95 100 BY SIMILARITY.  
SQ SEQUENCE 153 AA; 17267 MW; AAEL3FDEDI3EE2F8 CRC64;

Query Match 64.1%; Score 384; DB 1; Length 153;  
Best Local Similarity 70.8%; Pred. No. 9.8e-35;  
Matches 75; Conservative 6; Mismatches 17; Indels 8; Gaps 2;

QY 1 GPEITLGAELVDALQFVCGPFGFENKPTVYGSSIRAPQGIYDECCFSCDRLRLMY 60  
DB 49 GPEITLGAELVDALQFVCGPFGFENKPTVYGSSIRAPQGIYDECCFSCDRLRLMY 108  
QY 61 CVRCKPTKSAFSAIRASQRTDMPKTKQSPKSTHKKRLQRRKSGST 106  
DB 109 CAPIKPKSAFSAIRASQRTDMPKTKQSPKSTHKKRLQRRKSGST 146

Search completed: March 3, 2004, 08:05:42  
Job time : 9.0241 secs

Query Match	Best Local Similarity	68.4%	Score 410;	DB 1;	Length 154;
Matches	76;	Conservative	1;	Mismatches	9;
				Indels	0;
				Gaps	0;
QY	1	GPETLGGELVDALDFVCGPRGFGYNKPTVYSSSIRRAPQGTSTVWECRCRCDLRRLMY	60		
DB	50	GPETLGGELVDALDFVCGPRGFGYNKPTVYSSSIRRAPQGTSTVWECRCRCDLRRLMY	109		
QY	61	CVRCCKPYKSARSIRAPRHTDMPKTK	86		
DB	110	CAPLKAASARSVRAQRHTDMPKTK	135		

RESULT 14

IGF1_COTUA	STANDARD;	PRT;	124 AA.
IGF1_COTUA			
AC	PS1462;		
DT	01-OCT-1996 (Rel. 34, Created)		
DT	01-OCT-1996 (Rel. 34, Last sequence update)		
DT	10-OCT-2003 (Rel. 42, Last annotation update)		
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin)		
DE	(Fragment).		
GN	IGF1.		
OS	Coturnix coturnix japonica (Japanese quail).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Archosauromorpha; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;		
OC	Coturnix		
CX	NCBI_TaxID=93934;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RA	MEDLINE=95187621; PubMed=7881819;		
RA	Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,		
RT	Noguchi T.;		
RT	"Insulin-like growth factor-I messenger RNA content in the oviduct of		
RT	Japanese quail (Coturnix coturnix japonica): changes during growth		
RT	and development or after estrogen administration.";		

Rt	Comp.	Biochem.	Physiol.	109C:191-204(1994).
Rc	-I-	FUNCTION:	The insulin-like growth factors, isolated from plasma,	
Cc			are structurally and functionally related to insulin but have a	
Cc			much higher growth-promoting activity.	
Cc			SUBCELLULAR LOCATION: Secreted.	
Cc			-I- SIMILARITY: Belongs to the insulin family.	
Cc			-----	
Cc	This	SWISS-PROT	entry is copyright. It is produced through a collaboration	
Cc			between the Swiss Institute of Bioinformatics and the EMBL outstation -	
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Cc			modified and this statement is not removed. Usage by and for commercial	
Cc			entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a>	
Cc			or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).	
Cc			-----	
Cc	EMBL;	S75247;	-I- NOT_ANNOTATED_CDS.	
Dn	HASP;	P01343;	IGF1.	
Dn	InterPro;	IPIR004825;	Ins/IGF/relax.	
Dn	Fam;	PF00049;	insulin; 1.	
Dn	PRINTS;	PR00277;	INSULINB.	
Dn	SMART;	SMO0078;	IGF; 1.	
Dn	PROSITE;	PS00262;	INSULIN; 1.	
Kw	Insulin	family;	Growth factor; Plasma.	
Ft	NON_TER	1	1	
Ft	PROPEP	<1	19	POTENTIAL.
Ft	CHAIN	20	89	INSULIN-LIKE GROWTH FACTOR I.
Ft	DOMAIN	20	48	B.
Ft	DOMAIN	49	60	A.
Ft	DOMAIN	61	81	C.
Ft	DOMAIN	82	89	D.
Ft	PROPEP	90	124	E.PEPTIDE.
Ft	DISULFID	25	67	BY SIMILARITY.
Ft	DISULFID	37	80	BY SIMILARITY.
Ft	DISULFID	66	71	BY SIMILARITY.
Sq	SEQUENCE	124 AA;	1388 MW;	52254EB1BA52C3B6 CRC64;
Qy	Query Match	64.1%;	Score 384;	DB 1; Length 124;
Dd	Best Local Similarity	70.8%;	Pred. No. 7.7e-35;	
Matches	75;	Conservative	6;	Mismatches 17; Indels 8; Gaps 2;
Oy	1	GPETLCAGELVNDALDFVCGRGFYFNKPYTGSSIRRAPQTGIVDSCCFRSCLRLREMY	60	
Dd	20	GPETLCAGELVNDALDFVCGRGRFPYFSKPRTGYSSSRRLHHKGIVDECCPGSCDLRLREMY	75	
Oy	61	CVACKPTYKSARSIFRAQRHTDMPTKYQSPLSTHKRKRLQRRXGST	106	
Dd	80	CADIKPKPKSARSYFAQRHDTMPKAK-----EVH-----LKNTISRGNT	117	
Db				
RESULT 15				
IGF1_CHICK				
ID	IGF1_CHICK	STANDARD;	PRT;	153 AA.
AC	P18254;			
DT	01-NOV-1990	(Rel. 16, Created)		
DT	01-NOV-1990	(Rel. 16, Last sequence update)		
DT	10-OCT-2003	(Rel. 42, Last annotation update)		
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin).			
GN	IGF1.			
OS	Gallus gallus (Chicken).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;			
OC	Gallus.			
CX	NCBM_TaxID=9031;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
Rx	MEDLINE=90190648;			
RA	Kajimoto Y., Rotwein P.;			
RT	"Structure and expression of a chicken insulin-like growth factor I			
RT	precursor."			
Rt	Mol. Endocrinol.			
Rl	3:1907-1913(1989).			
RN	[2]			
RP	SEQUENCE OF 1-21 FROM N.A.			
Rx	MEDLINE=91236750;			
Rx	PubMed=2033062;			

RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences  
RT and biological activities compared with those of a potent truncated  
RT form.";  
RL Biochem. J. 251:95-103(1988).  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
DR EMBL: X15726; CAA33746.1; -;  
DR EMBL: S76122; AAD14209.1; -;  
DR PIR: S12672; IGB01.  
DR HSSP: P01343; IGF1.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PRO0277; INSULIN.  
DR SMART: SM00078; IIGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
DR Insulin family; Growth factor; Plasma; Signal.  
KW SIGNAL  
FT PROPEP 1 49  
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 50 78 B.  
FT DOMAIN 79 90 C.  
FT DOMAIN 91 111 A.  
FT DOMAIN 112 119 D.  
FT PROPEP 120 154 E. PEPTIDE.  
FT DISULFID 55 97 BY SIMILARITY.  
FT DISULFID 67 110 BY SIMILARITY.  
FT DISULFID 96 101 BY SIMILARITY.  
SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;

Query Match 69.8%; Score 418; DB 1; Length 154;  
Best Local Similarity 89.5%; Pred. No. 2e-38;  
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

CY 1 GPEFLCGAEVDAIOFVGPGGFYFNKPTVYSSIRAPOTGIYDECCFSSCDLRLEMY 60  
DB 50 GPEFLCGAEVDAIOFVGPGGFYFNKPTVYSSIRAPOTGIYDECCFSSCDLRLEMY 109

CY 61 CVRCKPTKSARSIRAPORTDMPKTK 86  
DB 110 CAPLKPASARSVRAQRHTDMPKAK 135

RESULT 13  
IGF1 SHEEP STANDARD; PRT; 154 AA.  
AC P10763;  
DT 01-JUL-1989 (Rel. 11, Created)  
DT 01-FEB-1991 (Rel. 17, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN IGF1.  
OS Ovis aries (sheep).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Caprinae; Ovis.  
CC NCB1\_TaxID=9940;  
CX [1]  
EN SEQUENCE FROM N.A.  
RP TISSUE=Liver;  
RC MEDLINE=90126234; PubMed=2575490;  
RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;

RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity  
RT in the mRNA population.";  
RL DNA 8:649-657(1989).  
CC (2)  
CC SEQUENCE FROM N.A.  
CC TISSUE=Liver;  
CC MEDLINE=91197361; PubMed=2015053;  
CC Dickinson M.C., Saunders J.C., Gilmore R.S.;  
CC "The ovine insulin-like growth factor-I gene: characterization,  
CC expression and identification of a putative promoter.";  
CC J. Mol. Endocrinol. 6:17-31(1991).  
CC [3]  
CC SEQUENCE FROM N.A.  
CC TISSUE=Liver;  
CC MEDLINE=93221682; PubMed=8466647;  
CC Ohlsen S.M., Dean D.M., Wong E.A.;  
CC "Characterization of multiple transcription initiation sites of the  
CC ovine insulin-like growth factor-I gene and expression profiles of  
CC three alternatively spliced transcripts.";  
CC DNA Cell Biol. 12:243-251(1993).  
CC [4]  
CC SEQUENCE OF 55-135 FROM N.A.  
CC STRAIN=Cooport; TISSUE=Liver;  
CC MEDLINE=93250051; PubMed=8485157;  
CC Demmer U., Hill D.F., Petersen G.B.;  
CC "Characterization of two sheep insulin-like growth factor II cDNAs  
CC with different 5'-untranslated regions.";  
CC Biochim. Biophys. Acta 1173:79-80(1993).  
CC [5]  
CC SEQUENCE OF 50-119.  
CC MEDLINE=89136887; PubMed=2537174;  
CC Francis G.L., McNeill K.A., Wallace J.C., Ballard F.J., Owens P.C.;  
CC "Sheep insulin-like growth factors I and II: sequences, activities  
CC and assays.";  
CC Endocrinology 124:1173-1183(1989).  
CC [6]  
CC SEQUENCE OF 50-79.  
CC MEDLINE=89323215; PubMed=2752053;  
CC Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;  
CC "Simultaneous isolation of insulin-like growth factors I and II from  
CC adult sheep serum.";  
CC Biochim. Biophys. Acta 997:27-35(1989).  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- ALTERNATIVE PRODUCTS:  
CC Event=Alternative splicing; Named isoforms=3;  
CC Name=B;  
CC IsoId=P10763-1; Sequence=Displayed;  
CC Name=A;  
CC IsoId=P10763-2; Sequence=VSP\_002707;  
CC Name=C;  
CC IsoId=P10763-3; Sequence=VSP\_002706;  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
DR EMBL: M30653; AAA80532.1; -;  
DR EMBL: M30653; AAA80533.1; -;  
DR EMBL: M31734; AAA80535.1; -;  
DR EMBL: M31734; AAA80534.1; -;  
DR EMBL: M31736; AAA11545.1; -;  
DR EMBL: M31735; AAA11546.1; -;  
DR EMBL: M31735; AAA11547.1; -;  
DR EMBL: M31735; AAA11547.1; -;  
DR EMBL: X69472; CAA49230.1; -;  
DR EMBL: X69473; CAA49230.1; JOINED.

FT DISULFID 66 71 BY SIMILARITY.  
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;  
Query Match 69.8%; Score 418; DB 1; Length 122;  
Best Local Similarity 89.5%; Pred. No. 1.5e-38;  
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;  
Db 80 CAPLKPKASRSVRACRHTDMPKAK 105

QY 1 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFSCDLRLRLEMY 60  
DB 20 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFSCDLRLRLEMY 79

QY 61 CVRCKPKTSARSIRACRHTDMPKTK 86  
DB 80 CAPLKPKASRSVRACRHTDMPKAK 105

RESULT 11  
ID IGFI\_PIG STANDARD; PRT; 153 AA.  
AC P16545;  
DT 01-AUG-1990 (Rel. 15, Created)  
DT 01-AUG-1990 (Rel. 15, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN IGFI.  
OS Sus. scrofa (Pig).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.  
OX NCBI\_TaxID=9823;  
RX SEQUENCE FROM N.A.  
RP MEDLINE=90221822; PubMed=2326169;  
RA Mueller M., Brem G.;  
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'  
RT untranslated region, exons 1 and 2 and mRNA.";  
RL Nucleic Acids Res. 18:364-364 (1990).  
[2]  
RP SEQUENCE OF 20-153 FROM N.A.  
RX MEDLINE=89069596; PubMed=3211153;  
RA Tavakkoli A., Simmen P.A., Simmen R.C.M.;  
RT "Porcine insulin-like growth factor-I (pIGF-I): complementary  
RT ribonucleic acid cloning and uterine expression of messenger  
RT Mol. Endocrinol. 2:674-681 (1988).  
[3]  
RP SEQUENCE OF 1-21 FROM N.A.  
RX STRAIN=White Landrace; TISSUE=liver;  
RX MEDLINE=94128209; PubMed=8297476;  
RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,  
RA Gilmour R.S.;  
RT "The porcine insulin-like growth factor-I gene: characterization and  
RT expression of alternate transcription sites.";  
RL J. Mol. Endocrinol. 11:201-211 (1993).  
[1]  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.  
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CC  
CC EMBL; X17492; CA35527.1;  
CC EMBL; X52388; CA36617.1;  
CC EMBL; X52077; CA36296.1;  
CC EMBL; M31175; AAA31043.1; ALT\_INIT.  
CC EMBL; X17638; CA35632.1;  
CC PIR; S12825; S12825.

DR HSP; P01343; IGFI.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; I.  
DR PRINTS; PR00277; INSULIN.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 ?  
FT PROPEP 48  
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 49 77 B.  
FT DOMAIN 78 89 C.  
FT DOMAIN 90 110 A.  
FT DOMAIN 111 118 D.  
FT PROPEP 119 153 E. PEPTIDE.  
FT DISULFID 54 96 BY SIMILARITY.  
FT DISULFID 66 109 BY SIMILARITY.  
FT DISULFID 95 100 BY SIMILARITY.  
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;  
Query Match 69.8%; Score 418; DB 1; Length 153;  
Best Local Similarity 89.5%; Pred. No. 2e-38;  
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;  
Db 49 GPEITCGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFSCDLRLRLEMY 108  
QY 61 CVRCKPKTSARSIRACRHTDMPKTK 86  
DB 109 CAPLKPKASRSVRACRHTDMPKAK 134

RESULT 12  
ID IGFI\_BOVIN STANDARD; PRT; 154 AA.  
AC P07455;  
DT 01-APR-1988 (Rel. 07, Created)  
DT 01-NOV-1991 (Rel. 20, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RX SEQUENCE OF 2-154 FROM N.A.  
RX MEDLINE=90175014; PubMed=2308858;  
RA Focsis T., Murphy C., Gannon F.;  
RT "Nucleotide sequence of the bovine insulin-like growth factor I  
RT (IGF-I) and its IGF-1A precursor.";  
RL Nucleic Acids Res. 18:676-676 (1990).  
[2]  
RP SEQUENCE OF 50-119 FROM N.A.  
RX MEDLINE=95172127; PubMed=7867698;  
RA Schmidt A., Einspanner R., Amseelgruber W., Sinowatz F., Schams D.;  
RT "Expression of insulin-like growth factor I (IGF-I) in the bovine  
RT ovine during the oestrous cycle.";  
RL Exp. Clin. Endocrinol. 102:364-369 (1994).  
[3]  
RP SEQUENCE OF 50-119.  
RX MEDLINE=86085881; PubMed=3941093;  
RA Homegger A., Hummel R.B.;  
RT "Insulin-like growth factors I and II in fetal and adult bovine  
RT serum. Purification, primary structures, and immunological  
RT cross-reactivities.";  
RL J. Biol. Chem. 261:569-575 (1986).  
[4]  
RP SEQUENCE OF 50-119.  
RX MEDLINE=88268820; PubMed=3390164;  
RX Francis G.L., Upton F.W., Ballard F.J., McNeill K.A., Wallace J.C.;

Query Match 70.6%; Score 423; DB 1; Length 153;  
 Best Local Similarity 90.7%; Pred. No. 5.7e-39;  
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITCGALVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDRLRLMY 108

QY 61 CVRCKPTKSARSIRAPQHTDMPKTK 86  
 DB 109 CAPLKPASARSVRAQRHTDMPKTK 134

RESULT 9  
 IGF1\_CAPH1 STANDARD; PRT; 154 AA.  
 AC P51457;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 16-OCT-2001 (Rel. 40, Last sequence update)  
 DT 15-MAR-2004 (Rel. 43, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
 GN IGF1.  
 OS Capra hircus (Goat).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Bovidae; Caprinae; Capra.  
 CX NCBI\_TaxID=9925;  
 RN [1]  
 RP SEQUENCE FROM N.A. AND TISSUE SPECIFICITY.  
 RC STRAIN=Shiba; TISSUE=Liver;  
 RX MEDLINE=95290780; PubMed=7772848;  
 RA Mikawa S.; Yoshikawa G.-I.; Yamano Y.; Sakai H.; Komano T.; Hosoi Y.;  
 RA Utsumi K.;  
 RT "Tissue- and development-specific expression of goat insulin-like  
 growth factor-I (IGF-I) mRNA.";  
 RL Biosci. Biotechnol. Biochem. 59:759-761(1995).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- TISSUE SPECIFICITY: Expressed in all tissues examined: brain,  
 lung, liver, spleen, uterus, ovary, testis, heart and skeletal  
 muscle.  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC  
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 or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

EMBL; D11378; BAA01976.1; -;  
 DR EMBL; D26119; BAB77524.1; ALT SEQ.  
 DR EMBL; D26116; BAB77524.1; JOINED.  
 DR EMBL; D26117; BAB77524.1; JOINED.  
 DR EMBL; D26118; BAB77524.1; JOINED.  
 DR PIR; JC2483; JC2483.  
 DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF. 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Signal.  
 FT SIGNAL 1 ?  
 FT PROPEP 1 ?  
 FT CHAIN 50 119 BY SIMILARITY.  
 FT DOMAIN 50 78 INSULIN-LIKE GROWTH FACTOR I.  
 FT DOMAIN 79 90 B.  
 FT DOMAIN 91 111 C.  
 FT A.

FT DOMAIN 112 119 D.  
 FT PROPEP 120 154 E PEPTIDE.  
 FT DISULFID 55 97 BY SIMILARITY.  
 FT DISULFID 67 110 BY SIMILARITY.  
 FT DISULFID 96 101 BY SIMILARITY.  
 SQ SEQUENCE 154 AA; 17082 MW; 0723856AF3068422 CRC64;

Query Match 70.6%; Score 423; DB 1; Length 154;  
 Best Local Similarity 90.7%; Pred. No. 5.8e-39;  
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQFVCGPRGFYFNKPTVYSSIRRAPQGTIVDECCFRSCDRLRLMY 60  
 DB 50 GPEITCGALVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDRLRLMY 109

QY 61 CVRCKPTKSARSIRAPQHTDMPKTK 86  
 DB 110 CAPLKPASARSVRAQRHTDMPKTK 135

RESULT 10  
 IGF1\_CANFA STANDARD; PRT; 122 AA.  
 AC P33712;  
 DT 01-FEB-1994 (Rel. 28, Created)  
 DT 01-FEB-1994 (Rel. 28, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)  
 DE (Fragment).  
 GN IGF1 OR IGF1A.  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 CX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=93366192; PubMed=8359700;  
 RA Delafontaine P.; Hou H.; Harrison D.G.; Bernstein K.E.;  
 RL Gene 130:305-306(1993).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC  
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EMBL; L08254; -; NOT\_ANNOTATED\_CDS.  
 DR PIR; PNO622; PNO622.  
 DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF. 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Signal.  
 FT NON TER 1 1  
 FT SIGNAL <1 19  
 FT CHAIN 20 89 BY SIMILARITY.  
 FT DOMAIN 20 48 INSULIN-LIKE GROWTH FACTOR I.  
 FT DOMAIN 49 60 B.  
 FT DOMAIN 61 81 C.  
 FT DOMAIN 82 89 A.  
 FT PROPEP 90 122 D.  
 FT DISULFID 25 67 E PEPTIDE.  
 FT DISULFID 37 80 BY SIMILARITY.  
 FT BY SIMILARITY.



RT "Organization of the human genes for insulin-like growth factors I  
 and II.";  
 RL FBS Lett. 195:179-184(1986).  
 RN [5]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=91207342; PubMed=2018498;  
 RA Sreenbergh P.H., Koonen-Reemer A.M.C.B., Cleutjens C.B.J.M.,  
 RT Sussenbach J.S.;  
 RL "Complete nucleotide sequence of the high molecular weight human  
 IGF-I mRNA.";  
 RL Biochem. Biophys. Res. Commun. 175:507-514(1991).  
 RN [6]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Brain;  
 RX MEDLINE=92186627; PubMed=1372070;  
 RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;  
 RT "Characterization of two cDNAs encoding insulin-like growth factor 1  
 (IGF-1) in the human fetal brain.";  
 RL Brain Res. Mol. Brain Res. 12:275-277(1992).  
 RN [7]  
 RP SEQUENCE OF 24-50 AND 119-153 FROM N.A.  
 RX MEDLINE=94295593; PubMed=6392022;  
 RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;  
 RT "Insulin-like growth factor II precursor gene organization in  
 relation to insulin gene family.";  
 RL Nature 310:777-781(1984).  
 RN [8]  
 RP SEQUENCE OF 49-118  
 RX MEDLINE=78130171; PubMed=632300;  
 RA Rinderknecht E., Humbel R.E.;  
 RT "The amino acid sequence of human insulin-like growth factor I and  
 its structural homology with proinsulin.";  
 RL J. Biol. Chem. 253:2769-2776(1978).  
 RN [9]  
 RP 3D-STRUCTURE MODELING.  
 RX MEDLINE=83210259; PubMed=6189745;  
 RA Blundell T.L., Bedarkar S., Humbel R.E.;  
 RT "Tertiary structures, receptor binding, and antigenicity of  
 insulinlike growth factors.";  
 RL Fed. Proc. 42:2592-2597(1983).  
 RN [10]  
 RP STRUCTURE BY NMR.  
 RX MEDLINE=91242464; PubMed=2036417; I.D.;  
 RA Cooke R.M., Harvey T.S., Campbell I.D.;  
 RT "Solution structure of human insulin-like growth factor 1: a nuclear  
 magnetic resonance and restrained molecular dynamics study.";  
 RL Biochemistry 30:5484-5491(1991).  
 RN [11]  
 RP STRUCTURE BY NMR.  
 RX MEDLINE=92316903; PubMed=1319992;  
 RA Sato A., Nishimura S., Okubo T., Kyogoku Y., Koyama S., Kobayashi M.,  
 RA Yasuda T., Kobayashi Y.;  
 RT "1H-NMR assignment and secondary structure of human insulin-like  
 growth factor-I (IGF-I) in solution.";  
 RL J. Biochem. 111:529-536(1992).  
 RN [12]  
 RP DISULFIDE BONDS.  
 RX MEDLINE=99207850; PubMed=3242681;  
 RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;  
 RT "Location of disulphide bonds in human insulin-like growth factors  
 (IGFs) synthesized by recombinant DNA technology.";  
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Name=IGF-1A;  
 CC IsoId=P01343-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P05019-1; Sequence=External;

CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; M14156; AAA52538.1; -;  
 DR EMBL; M12659; AAA52538.1; JOINED.  
 DR EMBL; M14153; AAA52538.1; JOINED.  
 DR EMBL; M14154; AAA52538.1; JOINED.  
 DR EMBL; X00173; CAA24998.1; -;  
 DR EMBL; X03563; CAA27250.1; ALT\_SEQ.  
 DR EMBL; M27544; AAA52787.1; -;  
 DR EMBL; X03420; CAA27152.1; -;  
 DR EMBL; X03421; CAA27153.1; -;  
 DR EMBL; X03422; CAA27154.1; -;  
 DR EMBL; X57025; CAA40342.1; -;  
 DR EMBL; X56773; CAA40092.1; -;  
 DR PIR; A92581; IGHU1.  
 DR PDB; 1GF1; 15-OCT-94.  
 DR PDB; 2GF1; 15-APR-93.  
 DR PDB; 3GF1; 15-APR-93.  
 DR PDB; 1B9G; 23-FEB-99.  
 DR PDB; 1GZK; 02-OCT-02.  
 DR PDB; 1GZJ; 02-OCT-02.  
 DR PDB; 1GZ2; 25-JUL-02.  
 DR PDB; 1H02; 25-JUL-02.  
 DR PDB; 1H59; 16-MAY-02.  
 DR PDB; 1IMX; 03-OCT-01.  
 DR Genew; HGNC:5464; IGF1.  
 DR MIM; 147440; -;  
 DR MIM; 265850; -;  
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.  
 DR GO; GO:0005180; F:peptide hormone; TAS.  
 DR GO; GO:0006928; F:cell motility; TAS.  
 DR GO; GO:0006260; P:DNA replication; TAS.  
 DR GO; GO:0009441; P:glycolate metabolism; TAS.  
 DR GO; GO:0007517; P:muscle development; TAS.  
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.  
 DR GO; GO:0007165; P:RAS protein signal transduction; TAS.  
 DR GO; GO:0001501; P:skeletal development; TAS.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PRO0277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; 3D-structure;  
 KW Alternative splicing; Signal.  
 FT SIGNAL 1 21  
 FT PROPEP 22 48  
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR 1A.  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 153 E PEPTIDE.  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 FT STRAND 95 100  
 FT STRAND 51 51  
 FT TURN 55 55  
 FT TURN 56 69  
 FT TURN 87 88  
 FT TURN 91 95  
 FT TURN 96 97  
 FT STRAND 99 99  
 FT HELIX 106 109  
 FT SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

DR EMBL; X04480; CAA28168.1; -.  
 DR PIR; A25540; A25540.  
 DR HSSP; P01343; IGF1.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 KM Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT CHAIN 1 22  
 FT SIGNAL 1 22  
 FT DOMAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.  
 FT DOMAIN 23 51 B.  
 FT DOMAIN 52 63 C.  
 FT DOMAIN 64 84 A.  
 FT DOMAIN 85 92 D.  
 FT PROPEP 93 127 E PEPTIDE.  
 FT DISULFID 28 70 BY SIMILARITY.  
 FT DISULFID 40 83 BY SIMILARITY.  
 FT DISULFID 69 74 BY SIMILARITY.  
 SQ SEQUENCE 127 AA; 14120 MW; 105488C672DC2D7 CRC64;  
 Query Match 73.5%; Score 440; DB 1; Length 127;  
 Best Local Similarity 94.2%; Pred. No. 6.6e-41;  
 Matches 81; Conservative 1; Mismatches 4; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVTGSSIRRAPQGTIVDECCFRSCDLRLRLEY 60  
 DB 23 GPEITLGAELVDALQFVCGPRGFYFNKPTVTGSSIRRAPQGTIVDECCFRSCDLRLRLEY 82  
 QY 61 CVRCRPTKSARSIRARHTDMPKTX 86  
 DB 83 CAPLKPTRAKRSIRARHTDMPKTX 108  
 RESULT 7  
 IGF1\_CAVPO STANDARD; PRT; 130 AA.  
 ID IGF1\_CAVPO  
 AC P17647  
 DT 01-AUG-1990 (Rel. 15, Created)  
 DT 01-AUG-1990 (Rel. 15, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin C).  
 GN IGF1.  
 OS Cavia porcellus (Guinea pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.  
 OX NCBI\_TaxID=10141;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Pancreas;  
 RX MEDLINE=90332447; PubMed=2377480;  
 RA Bell G.I., Stempien M.M., Pong N.M., Scino S.;  
 RT "Sequence of a cDNA encoding guinea pig IGF-I";  
 RL Nucleic Acids Res. 18:4275-4275(1990).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the insulin family.  
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 CC or send an email to [license@sib-sib.ch](mailto:license@sib-sib.ch)).  
 CC EMBL; X52951; CAA37127.1; -.  
 DR PIR; S12719; IGGP1.

DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR Insulin family; Growth factor; Plasma; Signal.  
 KM Insulin family; Growth factor; Plasma; Signal.  
 FT CHAIN 1 25  
 FT SIGNAL 1 25  
 FT DOMAIN 26 95 INSULIN-LIKE GROWTH FACTOR I.  
 FT DOMAIN 26 54 B.  
 FT DOMAIN 55 66 C.  
 FT DOMAIN 67 87 A.  
 FT DOMAIN 88 95 D.  
 FT PROPEP 96 130 E PEPTIDE.  
 FT DISULFID 31 73 BY SIMILARITY.  
 FT DISULFID 43 86 BY SIMILARITY.  
 FT DISULFID 72 86 BY SIMILARITY.  
 SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;  
 Query Match 70.6%; Score 423; DB 1; Length 130;  
 Best Local Similarity 90.7%; Pred. No. 4.8e-39;  
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVTGSSIRRAPQGTIVDECCFRSCDLRLRLEY 60  
 DB 26 GPEITLGAELVDALQFVCGPRGFYFNKPTVTGSSIRRAPQGTIVDECCFRSCDLRLRLEY 85  
 QY 61 CVRCRPTKSARSIRARHTDMPKTX 86  
 DB 86 CAPLKPTRAKRSIRARHTDMPKTX 111  
 RESULT 8  
 IGF1\_HUMAN STANDARD; PRT; 153 AA.  
 ID IGF1\_HUMAN  
 AC P01343  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 13-AUG-1987 (Rel. 05, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).  
 GN IGF1 OR IBP1.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC MEDLINE=86168194; PubMed=2937782;  
 RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;  
 RT "Organization and sequence of the human insulin-like growth factor I  
 RT gene. Alternative RNA processing produces two insulin-like growth  
 RT factor I precursor peptides";  
 RL J. Biol. Chem. 261:4828-4832(1986).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC MEDLINE=84068210; PubMed=6358902;  
 RA Jensen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,  
 RA Gabbay K.H., Nussbaum A.L., Suseenbach J.S., van den Brande J.L.;  
 RT "Sequence of cDNA encoding human insulin-like growth factor I  
 RT precursor";  
 RL Nature 306:609-611(1983).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC MEDLINE=86108910; PubMed=2935423;  
 RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeier P.;  
 RT "Complete characterization of the human IGF-I nucleotide sequence  
 RT isolated from a newly constructed adult liver cDNA library";  
 RL FEBS Lett. 196:108-112(1986).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC MEDLINE=6108862; PubMed=3002851;  
 RA de Pagter-Holthuisen P., van Schaik F.M.A., Verdult G.M.,  
 RA van Ommen G.J.B., Bouma B.N., Jansen M., Suseenbach J.S.;

RL J. Biol. Chem. 262:7894-7900(1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Testis;  
 RX MEDLINE=88003970; PubMed=3652906;  
 RA Casella S.U., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,  
 RT Hoyt E.C., Lund P.K.;  
 RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor  
 RT I precursor";  
 RT DNA 6:325-330(1987).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=9103966; PubMed=1368571;  
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;  
 RT "A new cDNA clone relating to larger molecular species of rat  
 RT insulin-like growth factor-I mRNA";  
 RL Agric. Biol. Chem. 54:1599-1601(1990).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=89127259; PubMed=3221878;  
 RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Lerolth D.;  
 RT "Structure of the rat insulin-like growth factor II transcriptional  
 RT unit: heterogeneous transcripts are generated from two promoters by  
 RT use of multiple polyadenylation sites and differential ribonucleic  
 RT acid splicing";  
 RL Mol. Endocrinol. 2:1115-1126(1988).  
 RN [5]  
 RP SEQUENCE OF 46-153 FROM N.A.  
 RX MEDLINE=87246437; PubMed=3595538;  
 RA Murphy L.J., Bell G.I., Duckworth M.L., Frieseen H.G.;  
 RT "Identification, characterization, and regulation of a rat  
 RT complementary deoxyribonucleic acid which encodes insulin-like growth  
 RT factor-I";  
 RL Endocrinology 121:684-691(1987).  
 RN [6]  
 RP SEQUENCE OF 49-118  
 RX MEDLINE=89174609; PubMed=2538424;  
 RA Tamura K., Kobayashi M., Ishi Y., Tamura T., Hashimoto K.,  
 RA Nakamura S., Nawa M., Zapp J.;  
 RT "Primary structure of rat insulin-like growth factor-I and its  
 RT biological activities";  
 RL J. Biol. Chem. 264:5616-5621(1989).  
 CC -!- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P08025-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P08024-1; Sequence=External;  
 CC -!- SIMILARITY: Belongs to the insulin family.  
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 CC -----  
 DR EMBL: X06043; CAA29436.1; -;  
 DR EMBL: M15651; AAA41215.1; -;  
 DR EMBL: M15647; AAA41215.1; JOINED.  
 DR EMBL: M15648; AAA41215.1; JOINED.  
 DR EMBL: M15649; AAA41215.1; JOINED.  
 DR EMBL: M17714; AAA41227.1; -;  
 DR EMBL: M17335; AAA41386.1; ALT\_INIT.  
 DR EMBL: M15481; AAA41387.1; ALT\_INIT.  
 DR PIR: B27804; B27804.  
 DR HSSP: P01343; IGF1.  
 DR InterPro: IPR004825; Ins/IGF/relax.

DR Pfam: PF00049; Insulin; 1.  
 DR PRINTS: PRO0277; INSULINB.  
 DR SMART: SM0078; IIGF. 1.  
 DR PROSITE: PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 ? ?  
 FT PROPEP 49 48  
 FT CHAIN 49 118  
 FT DOMAIN 49 77  
 FT DOMAIN 78 89  
 FT DOMAIN 90 110  
 FT DOMAIN 111 118  
 FT DOMAIN 119 153  
 FT PROPEP 54 96  
 FT DISULFD 66 109  
 FT DISULFD 95 100  
 FT DISULFD 110 112  
 FT COMPLET 110 112  
 SQ SEQUENCE 153 AA; 17079 MW; 966F30FPAEB3DE7 CRC64;  
 Query Match 74.0%; Score 443; DB 1; Length 153;  
 Best Local Similarity 95.3%; Pred. No. 3.9e-41;  
 Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;  
 QY 1 GPEFLCGAEIVDAIQFCGPRGPFYFNKPTTYGSSIRAPQTGYDECCFSSCDLRLEMY 60  
 DB 49 GPEFLCGAEIVDAIQFCGPRGPFYFNKPTGYSSIRAPQTGYDECCFSSCDLRLEMY 108  
 QY 61 CVRCCKPTKSARSIRAPRHTDMPKTK 86  
 DB 109 CAPLKPTKSARSIRAPRHTDMPKTK 134  
 RESULT 6  
 IGF1\_MOUSE STANDARD; PRT; 127 AA.  
 AC P05017;  
 DT 13-AUG-1987 (Rel. 05, Created)  
 DT 13-AUG-1987 (Rel. 05, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-1A) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_Taxid=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=87040760; PubMed=3774549;  
 RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;  
 RT "Sequences of liver cDNAs encoding two different mouse insulin-like  
 RT growth factor I precursors";  
 RL Nucleic Acids Res. 14:7873-7882(1986).  
 CC -!- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P05017-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P05018-1; Sequence=External;  
 CC -!- SIMILARITY: Belongs to the insulin family.  
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 CC -----

RA Cooke R.M., Harvey T.S., Campbell I.D.;  
 RT "Solution structure of human insulin-like growth factor I: a nuclear  
 RT magnetic resonance and restrained molecular dynamics study.";  
 RL Biochemistry 30:5484-5491(1991).  
 RN [8]  
 RP STRUCTURE BY NMR  
 RX MEDLINE=92319903; PubMed=1319992;  
 RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,  
 RA Yasuda T., Kobayashi Y.;  
 RT "1H-NMR assignment and secondary structure of human insulin-like  
 RT growth factor-I (IGF-I) in solution.";  
 RL J. Biochem. 111:529-536(1992).  
 RN [9]  
 RP DISULFIDE BONDS  
 RX MEDLINE=89207850; PubMed=3242681;  
 RA Raschdorf F., Dahinden R., Maerkl W., Richter M.U., Merryweather J.P.;  
 RT "Location of disulphide bonds in human insulin-like growth factors  
 RT (IGFs) synthesized by recombinant DNA technology.";  
 RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).  
 RN [10]  
 RP VARIANT ASP-187  
 RX MEDLINE=99318093; PubMed=10391209;  
 RA Cargill M., Altschuler D., Ireland J., Sklar P., Ardlie K., Patil N.,  
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,  
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.O.,  
 RA Lander E.S.;  
 RL Nat. Genet. 23:373-373(1999).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1B;  
 CC IsoId=PD5019-1; Sequence=Displayed;  
 CC Name=IGF-1A;  
 CC IsoId=P01343-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; M14155; AAAS2537.1; -;  
 DR EMBL; M12659; AAAS2537.1; JOINED.  
 DR EMBL; M14153; AAAS2537.1; JOINED.  
 DR EMBL; M14154; AAAS2537.1; JOINED.  
 DR EMBL; M11568; AAAS2539.1; -;  
 DR EMBL; X03563; CAA27250.1; ALT\_SEQ.  
 DR EMBL; X03420; CAA27152.1; -;  
 DR EMBL; X03421; CAA27153.1; -;  
 DR EMBL; X03422; CAA27154.1; -;  
 DR PIR; A01611; IGH01B.  
 DR PDB; 1GF1; 15-OCT-94.  
 DR PDB; 2GF1; 15-APR-93.  
 DR PDB; 3GF1; 15-APR-93.  
 DR PDB; 1BCT; 18-MAY-99.  
 DR GeneW; HGNC:5464; IGF1.  
 DR MIM; 147440; -;  
 DR MIM; 265850; -;

DR GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.  
 DR GO; GO:0005180; F:peptide hormone; TAS.  
 DR GO; GO:0006928; P:cell motility; TAS.  
 DR GO; GO:0006260; P:DNA replication; TAS.  
 DR GO; GO:0009441; P:glycolate metabolism; TAS.  
 DR GO; GO:0007517; P:muscle development; TAS.  
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.  
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.  
 DR GO; GO:0007165; P:signal transduction; TAS.  
 DR GO; GO:0001501; P:skeletal development; TAS.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; 3D-structure; Plasma;  
 KW Alternative splicing; Signal; Polymorphism.  
 FT SIGNAL 1 21  
 FT PROPEP 49 118 INSULIN-LIKE GROWTH FACTOR 1B.  
 FT CHAIN 49 118 B.  
 FT DOMAIN 49 77 C.  
 FT DOMAIN 78 89 A.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 E.  
 FT PROPEP 119 195 PEPTIDE.  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 FT DISULFID 95 100  
 FT VARIANT 187 187 A -> D (in dbSNP:6213).  
 FT STRAND 51 51 /FTID=VAR\_013945.  
 FT TURN 55 55  
 FT HELIX 56 69  
 FT TURN 87 88  
 FT HELIX 91 95  
 FT TURN 96 97  
 FT STRAND 99 99  
 FT HELIX 106 109  
 FT SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;  
 SQ  
 Query Match 77.5%; Score 464; DB 1; Length 195;  
 Best Local Similarity 85.3%; Pred. No. 2.7e-43;  
 Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;  
 QY 1 GPEITCGARLVADLQFVCGPPRGFFYFNKPTVYSSSTRRAPOGTIVDECCFRSCDLRLMY 60  
 DB 49 GPEITCGARLVADLQFVCGPPRGFFYFNKPTVYSSSTRRAPOGTIVDECCFRSCDLRLMY 108  
 QY 61 CVRCKETKASRSIRAOBHTDMPKTKSQOPLSTHKRKLQRR 102  
 DB 109 CAPLKPASRSVRAORHIDMKTKYQPPSTNKTKSQRR 150  
 RESULT 5  
 ID IGFA RAT STANDARD; PRT; 153 AA.  
 AC P08025;  
 DT 01-AUG-1988 (Rel. 08, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor IA precursor (IGF-1A) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=8722423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors. Organization,  
 RT sequence, and expression of the rat insulin-like growth factor I  
 RT gene.";

QY 61 CVCCKPTKASRSIRACRHTDMPKTKSQPLSTHKRKLORRRKST 106  
DB 109 CAPLKPTKASRSIRACRHTDMPKTKSQPLSTHKRKLORRRKST 154

RESULT 3  
IGF1\_RABIT STANDARD; PRT; 143 AA.  
AC Q95222; O18846;  
DT 01-NOV-1997 (Rel. 35, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN IGF1 OR IGF-1.  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
OX NCBI\_TaxID=9986;  
RN [1]  
RP SEQUENCE FROM N.A. (ISOFORM IGF-1A).  
RC STRAIN=ZIKK.  
RA Flekna G., Brem G., Mueller M.;  
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.  
RN [2]  
RP SEQUENCE FROM N.A. (ISOFORM IGF-1B).  
RC STRAIN=ZIKK; TISSUE=Liver;  
RA Flekna G., Brem G., Mueller M.;  
RL Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
are structurally and functionally related to insulin but have a  
much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- ALTERNATIVE PRODUCTS:  
CC Event=Alternative splicing; Named isoforms=2;  
CC Name=IGF-1B;  
CC IsoId=Q95222-1; Sequence=Displayed;  
CC Name=IGF-1A;  
CC IsoId=Q95222-2; Sequence=VSP\_002705;  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC -----  
DR EMBL; U75390; AAB48032.1; -.  
DR EMBL; AF022961; AAB80950.1; -.  
DR HSSP; P01343; IGF1.  
DR InterPro; IPRO04825; Ins/IGF/relax.  
DR Pfam; PF000649; Insulin; 1.  
DR PRINTS; PR00277; INSULINB.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
DR Insulin family; Growth factor; Plasma; Signal; Alternative splicing.  
KW SIGNAL 1 32  
FT CHAIN 33 102 POTENTIAL.  
FT PROPEP 103 143 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 33 61 E PEPTIDE.  
FT DOMAIN 62 73 C.  
FT DOMAIN 74 94 A.  
FT DOMAIN 95 102 D.  
FT DISULFID 38 80 BY SIMILARITY.  
FT DISULFID 50 93 BY SIMILARITY.  
FT DISULFID 79 84 BY SIMILARITY.  
FT VARSPLIC 119 143 KQPSSTKMKKRSRRKGSFEEHK -> EYHAKTSRSGSA  
GNKNTYRM (in isoform IGF-1A).  
FT FTId=VSP\_002705.  
SEQUENCE 143 AA; 16091 MW; 819AF577800A1B1A CRC64;

Query Match 85.5%; Score 512; DB 1; Length 143;  
Best Local Similarity 86.5%; Pred. No. 1.1e-48;  
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPEITGAEIYDALQVCGPGRGFYFNKPTVYGSIRAPQTGIVDECCFSCDLRIEMTY 60  
DB 33 GPEITGAEIYDALQVCGPGRGFYFNKPTVYGSIRAPQTGIVDECCFSCDLRIEMTY 92

QY 61 CVCCKPTKASRSIRACRHTDMPKTKSQPLSTHKRKLORRRKST 111  
DB 93 CAPLKPTKASRSIRACRHTDMPKTKSQPLSTHKRKLORRRKST 143

RESULT 4  
IGFB\_HUMAN STANDARD; PRT; 195 AA.  
AC P05019;  
DT 13-AUG-1987 (Rel. 05, Created)  
DT 13-AUG-1987 (Rel. 05, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor IB precursor (IGF-1B) (Somatomedin C).  
GN IGF1 OR IBP1.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A. PubMed=2937782;  
RX MEDLINE=86168194;  
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;  
RL "Organization and sequence of the human insulin-like growth factor I  
gene. Alternative RNA processing produces two insulin-like growth  
factor I precursor peptides.";  
RL J. Biol. Chem. 261:4828-4832(1986).  
RN [2]  
RP SEQUENCE FROM N.A. PubMed=3455760;  
RX MEDLINE=86094355;  
RA Rotwein P.;  
RL "Two insulin-like growth factor I messenger RNAs are expressed in  
human liver.";  
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).  
RN [3]  
RP SEQUENCE FROM N.A. PubMed=3002851;  
RX MEDLINE=8610862;  
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussendach U.S.;  
RL "Organization of the human genes for insulin-like growth factors I  
and II.";  
RL FEBS Lett. 195:179-184(1986).  
RN [4]  
RP SEQUENCE OF 22-50 FROM N.A. PubMed=6382022;  
RX MEDLINE=84295593;  
RA Dull T.J., Gray A., Hayflick U.S., Ullrich A.;  
RL "Insulin-like growth factor II precursor gene organization in  
relation to insulin gene family.";  
RL Nature 310:777-781(1984).  
RN [5]  
RP SEQUENCE OF 49-118. PubMed=632300;  
RX MEDLINE=78130171;  
RA Rindernecht E., Humbel R.E.;  
RL "The amino acid sequence of human insulin-like growth factor I and  
its structural homology with proinsulin.";  
RL J. Biol. Chem. 253:2763-2776(1978).  
RN [6]  
RP 3D-STRUCTURE MODELING. PubMed=6189745;  
RX MEDLINE=83210259;  
RA Blundell T.L., Bedarkar S., Humbel R.E.;  
RL "Tertiary structures, receptor binding, and antigenicity of  
insulin-like growth factors.";  
RL Fed. Proc. 42:2592-2597(1983).  
RN [7]  
RP STRUCTURE BY NMR. PubMed=2036417;  
RX MEDLINE=91242464;

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 CC -----  
 DR EMBL; X04482; CAA28170.1; -  
 DR EMBL; BC012409; AAI12409.1; -  
 DR HSSP; P01343; IGF1.  
 DR MGP; MGI:96432; IGF1.  
 DR GO; GO:00010001; P:glial cell differentiation; IMP.  
 DR GO; GO:0007399; P:neurogenesis; IMP.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 22  
 FT CHAIN 1 22 INSULIN-LIKE GROWTH FACTOR IB.  
 FT DOMAIN 23 51 B.  
 FT DOMAIN 52 63 C.  
 FT DOMAIN 64 84 A.  
 FT DOMAIN 85 92 D.  
 FT PROPEP 93 133 E.PEPTIDE.  
 FT DISULFID 28 70 BY SIMILARITY.  
 FT DISULFID 40 83 BY SIMILARITY.  
 FT DISULFID 69 74 BY SIMILARITY.  
 SQ SEQUENCE 133 AA; 14915 MW; B85C05B886D2502 CRC64;  
 Query Match 89.6%; Score 537; DB 1; Length 133;  
 Best Local Similarity 91.0%; Pred. No. 2e-51; Indels 0; Gaps 0;  
 Matches 101; Conservative 2; Mismatches 8;  
 QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFRSCDRLRLMY 60  
 DB 23 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFRSCDRLRLMY 82  
 QY 61 CYRCPPTKSARSIRAPQRTMDPKTKQSQPLSTHKRKLQRRKSGSTLEHK 111  
 DB 83 CAPLKPFAARSIRAPQRTMDPKTKQSPSLSTNKKTKLQRRKSGSTLEHK 133  
 RESULT 2  
 IGF1\_RAT STANDARD; PRT; 181 AA.  
 AC P08024; 01-AUG-1988 (Rel. 08, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=87222423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors. Organization,  
 RT sequence, and expression of the rat insulin-like growth factor I  
 RT gene.";  
 RL J. Biol. Chem. 262:7894-7900 (1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=88015572; PubMed=3658684;  
 RA Shimatsu A., Rotwein P.;  
 RT "Sequence of two rat insulin-like growth factor I mRNAs differing  
 RT within the 5' untranslated region.";

-----  
 RL Nucleic Acids Res. 15:7196-7196 (1987).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=89127859; PubMed=3221878;  
 RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Lerch D.;  
 RT "Structure of the rat insulin-like growth factor II transcriptional  
 RT unit: heterogeneous transcripts are generated from two promoters by  
 RT use of multiple polyadenylation sites and differential ribonucleic  
 RT acid splicing.";  
 RL Mol. Endocrinol. 2:1115-1126 (1988).  
 RN [4]  
 RP SEQUENCE OF 49-118.  
 RX MEDLINE=89174609; PubMed=2538424;  
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,  
 RA Nakamura S., Niwa M., Zapf J.;  
 RT "Primary structure of rat insulin-like growth factor-I and its  
 RT biological activities.";  
 RL J. Biol. Chem. 264:5616-5621 (1989).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IB;  
 CC IsoId=P08024-1; Sequence=Displayed;  
 CC Name=IGF-1A;  
 CC IsoId=P08025-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; M15650; AAA41214.1; -  
 DR EMBL; M15647; AAA41214.1; JOINED.  
 DR EMBL; M15648; AAA41214.1; JOINED.  
 DR EMBL; M15649; AAA41214.1; JOINED.  
 DR EMBL; X06107; CAA29480.1; ALT\_SEQ.  
 DR EMBL; M15480; AAA41385.1; ALT\_SEQ.  
 DR PIR; A27804; A27804.  
 DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 2  
 FT CHAIN 1 2 INSULIN-LIKE GROWTH FACTOR IB.  
 FT PROPEP 3 48  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 181 E.PEPTIDE.  
 FT DISULFID 54 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT CONFLICT 110 112 APL -> VRC (IN REF. 2).  
 SQ SEQUENCE 181 AA; 20322 MW; 52BBA31875A1A06 CRC64;  
 Query Match 89.5%; Score 536; DB 1; Length 181;  
 Best Local Similarity 94.3%; Pred. No. 3.7e-51;  
 Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFRSCDRLRLMY 60  
 DB 49 GPEITLGAELVDALQFVCGPRGFYFNKPTVYSSIRAPQTGIVDECCFRSCDRLRLMY 108

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 8.0241 Seconds  
(without alignments)  
720.304 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599  
Sequence: 1 GPEITCGALVDALQFVCGP.....THKRRKLRGRRKSTLEBHK 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : SwissProt\_42.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	537	89.6	133 1	IGFB_MOUSE
2	536	89.5	181 1	IGFB_RAT
3	512	85.5	143 1	IGFB_RABIT
4	464	77.5	195 1	IGFB_HUMAN
5	443	74.0	153 1	IGFB_RAT
6	440	73.5	127 1	IGFB_MOUSE
7	423	70.6	130 1	IGFB_CAVPO
8	423	70.6	153 1	IGFB_HUMAN
9	423	70.6	154 1	IGFB_CAPI
10	418	69.8	122 1	IGFB_CANFA
11	418	69.8	153 1	IGFB_PIG
12	418	69.8	154 1	IGFB_BOVIN
13	410	68.4	154 1	IGFB_SHEEP
14	384	64.1	124 1	IGFB_COTUA
15	384	64.1	153 1	IGFB_CHICK
16	376.5	62.9	153 1	IGFB_XENLA
17	369	61.6	81 1	IGFB_SUNMU
18	362	60.4	161 1	IGFB_CYPCA
19	362	60.4	161 1	IGFB_CYPCA
20	361	60.3	176 1	IGFB_ONCKI
21	359	59.9	176 1	IGFB_ONCKY
22	358	59.8	176 1	IGFB_ONCKY
23	349	41.6	122 1	IGFB_HORSE
24	333	38.7	155 1	IGFB_BOVIN
25	323	38.7	179 1	IGFB_SHEEP
26	224	37.4	181 1	IGFB_HORSE
27	223	37.2	139 1	IGFB_MYXGL
28	222	37.1	181 1	IGFB_PIG
29	221.5	36.9	129 1	IGFB_MUSVI
30	221	36.9	180 1	IGFB_HUMAN
31	216	36.1	128 1	IGFB_CAVPO
32	212	35.4	180 1	IGFB_MOUSE
33	209.5	35.0	180 1	IGFB_RAT

34	203	33.9	66 1	IGFB_CHICK	P33717 gallus gall
35	152.5	25.5	50 1	INS_MYOSC	P07453 myoxocephal
36	151.5	25.3	51 1	INS_GADCA	P01336 gadus calita
37	150	25.0	59 1	INS_HYDCA	P09536 hydroclagus
38	148.5	24.8	51 1	INS1_BATSP	P01337 batrachoidi
39	147	24.5	50 1	INS2_BATSP	P01338 batrachoidi
40	146	24.4	51 1	INS_ZAOOH	P12708 zaoocys dhum
41	145	24.2	51 1	INS_ALMTI	P12703 alligator m
42	143	23.9	51 1	INS_ANSAN	P07454 anser anser
43	143	23.9	51 1	INS_CROAT	P01324 croatalus ac
44	142	23.7	51 1	INS_CHIR	P01327 chinchilla
45	142	23.7	51 1	INS_TRASC	P31887 trachemys s

## ALIGNMENTS

RESULT 1  
IGFB\_MOUSE STANDARD, PRT: 133 AA.  
AC P05018:  
13-AUG-1987 (Rel. 05, Created)  
DT 13-AUG-1987 (Rel. 05, Last sequence update)  
DT 15-MAR-2004 (Rel. 43, Last annotation update)  
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).  
GN IGF1 OR IGF-1.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
OX NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RX MEDLINE=87040760; PubMed=3774549;  
RA Bell G.I., Stempfen M.M., Fong N.M., Rall L.B.;  
RT "Sequences of liver cDNAs encoding two different mouse insulin-like  
RT growth factor I precursors."  
RL Nucleic Acids Res. 14:7873-7882(1986).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC STRAIN=FVB/N; TISSUE=Liver;  
RX MEDLINE=22388257; PubMed=12477932;  
RA Strussberg R.L., Reingold E.A., Grouse L.H., Derge J.G.,  
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
RA Altschul S.F., Zeeberg B., Butow K.H., Schaefer C.F., Bhat N.K.,  
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
RA Diatchenko L., Maruina K., Farmer A.A., Rubin G.M., Hong L.,  
RA Stadelman M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Ueda T.B., Toshiyuki S., Carninci P., Prange C.J.,  
RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,  
RA Boek S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Huiyk S.W.,  
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakesley R.W., Touchman J.W., Green E.D., Dickinson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
RA Butlerfield Y.S.N., Krzywinski M.I., Skalska U., Smallus D.E.,  
RA Schercher A., Schein J.E., Jones S.J.M., Matra M.A.;  
RT "Generation and initial analysis of more than 15,000 full-length  
RT human and mouse cDNA sequences."  
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RI - FUNCTION: The insulin-like growth factors, isolated from plasma,  
RI are structurally and functionally related to insulin but have a  
RI much higher growth-promoting activity.  
RI - SUBCELLULAR LOCATION: Secreted.  
RI - ALTERNATIVE PRODUCTS:  
RI Event=Alternative splicing; Named isoforms=2;  
RI Name=IGF-IB;  
RI isoId=P05018-1; Sequence=Displayed;  
RI Name=IGF-1A;  
RI isoId=P05017-1; Sequence=External;  
RI - SIMILARITY: Belongs to the insulin family.

RP SEQUENCE FROM N.A.  
RA Karsan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,  
RT Roberts C.T., Jr., Lerolith D.;  
RL "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene.";  
RN DNA Cell Biol. 11:729-737(1993).  
[2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=94296559; PubMed=8024699;  
RA Karsan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,  
RQ Roberts C.T., Jr., Lerolith D.;  
RT "Isolation of a second nonallelic insulin-like growth factor I gene  
from the salmon genome.";  
RN DNA Cell Biol. 13:555-559(1994).  
[3]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=95032736;  
RA Koval A., Kulik V., Dugay S., Pliseckaya E., Adamo M.L.,  
RQ Roberts C.T., Jr., Lerolith D., Karsan V.;  
RT "Characterization of a salmon insulin-like growth factor I promoter.";  
RN DNA Cell Biol. 13:1057-1062(1994).  
[4]  
RP SEQUENCE FROM N.A.  
RA Grebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;  
RL Submitted (MAY-1998) to the EMBL/Genbank/DBJ databases.  
CC 1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
CC 1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
EMBL: AF063216; AACI8833.1; ..  
HSSP: P01343; ZGFI.  
DR GO: GO:0005576; Cxetracelular; IEA.  
DR GO: GO:0005179; Fhormone activity; IEA.  
DR GO: GO:0007582; P;physiological processes; IEA.  
DR InterPro: IPRO04825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PRO0277; INSULIND.  
SMART: SM00788; IGF\_1.  
DR PROSITE: PS00262; INSULIN; 1.  
DR PROSITE: 188 AA; 20792 KM; F4CBE6D05E0F24B8 CRC64;  
SQ



SQ SEQUENCE 178 AA; 19687 MW; 7075A34FF379C6459 CRC64;  
 Query Match 60.4%; Score 362; DB 13; Length 178;  
 Best Local Similarity 62.7%; Pred. No. 3.4e-35;  
 Matches 69; Conservative 13; Mismatches 24; Indels 4; Gaps 1;  
 QY 1 GPEITLGAELVDALQVCGPRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 60  
 DB 62 GPEITLGAELVDLTQVCGDRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 121  
 QY 61 CVRCKPTKSARSIRAPQGTGIVDECCFRSCDLRLLEY 106  
 DB 122 CAPVKRGTPTSRVRAQRTDTPRTAKPLPGQSHSSYKXVHQKNSRGNT 171  
 RESULT 13  
 Q91475 PRELIMINARY; PRT; 145 AA.  
 AC Q91475;  
 DT 01-NOV-1996 (TREMBLrel. 01, Created)  
 DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
 DE Insulin-2003 (TREMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor I precursor (Fragment).  
 OS Salmo salar (Atlantic salmon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
 CC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.  
 NCBI\_TaxID=8030;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=93024477; PubMed=1406698;  
 RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;  
 RT "Nucleotide sequence and tissue distribution of three insulin-like  
 growth factor I prohormones in salmon."  
 RL Mol. Endocrinol. 6:1202-1210(1992).  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; M81904; AAA18211.1; -.  
 DR HSSP; P01343; 2GF1.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 FT NON\_TER 1  
 FT SIGNAL 1  
 FT CHAIN 19  
 FT NON\_TER 145  
 SQ SEQUENCE 145 AA; 15885 MW; 3D94EDF477268FC4 CRC64;  
 Query Match 60.3%; Score 361; DB 13; Length 145;  
 Best Local Similarity 67.3%; Pred. No. 3.6e-35;  
 Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQVCGPRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 60  
 DB 19 GPEITLGAELVDLTQVCGDRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 78  
 QY 61 CVRCKPTKSARSIRAPQGTGIVDECCFRSCDLRLLEY 101  
 DB 79 CAPVKRGTPTSRVRAQRTDTPRTAKPLPGQSHSSYKXVHQKNSRGNT 119  
 RESULT 14  
 Q91162 PRELIMINARY; PRT; 155 AA.  
 AC Q91162;  
 DT 01-NOV-1996 (TREMBLrel. 01, Created)

DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
 DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor I precursor (Fragment).  
 OS Oncorhynchus kisutch (Coho salmon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
 CC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
 NCBI\_TaxID=8019;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=90190659; PubMed=2628735;  
 RA Cao Q.P., Duguay S.J., Plisetkaya E., Steiner D.F., Chan S.J.;  
 RT "Nucleotide sequence and growth hormone regulated expression of salmon  
 insulin-like growth factor I mRNA."  
 RL Mol. Endocrinol. 3:2005-2010(1989).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; M81913; AAA49413.1; -.  
 DR PIR; C44012; C44012.  
 DR HSSP; P01343; 2GF1.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 FT NON\_TER 1  
 FT SIGNAL 1  
 FT CHAIN 19  
 FT NON\_TER 155  
 SQ SEQUENCE 155 AA; 16968 MW; 022PFD3CA39CA3160 CRC64;  
 Query Match 60.3%; Score 361; DB 13; Length 155;  
 Best Local Similarity 67.3%; Pred. No. 3.8e-35;  
 Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQVCGPRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 60  
 DB 19 GPEITLGAELVDLTQVCGDRGPFYFNKPTVYSSIRAPQGTGIVDECCFRSCDLRLLEY 78  
 QY 61 CVRCKPTKSARSIRAPQGTGIVDECCFRSCDLRLLEY 101  
 DB 79 CAPVKRGTPTSRVRAQRTDTPRTAKPLPGQSHSSYKXVHQKNSRGNT 119  
 RESULT 15  
 P81268 PRELIMINARY; PRT; 188 AA.  
 AC P81268;  
 DT 01-AUG-1998 (TREMBLrel. 07, Created)  
 DT 01-AUG-1998 (TREMBLrel. 07, Last sequence update)  
 DE Insulin-2003 (TREMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor I precursor.  
 GN IGF-1.1.  
 OS Oncorhynchus keta (Chum salmon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
 CC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
 NCBI\_TaxID=8016;  
 RN [1]

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ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RC SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.,
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways."
RT Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RA Devlin R.H.,
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AA67267.1; -.
DR PIR; C54270; C54270.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;

Query Match 60.5%; Score 362.5; DB 13; Length 161;
Best Local Similarity 66.4%; Pred. No. 2.2e-35;
Matches 71; Conservative 11; Mismatches 22; Indels 3; Gaps 2;

QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 60
DB 45 GPEITCGAEIVDTLQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 104
QY 61 CVRCKPFSARSIRRAQHTDMPKTKOSQPLS--THKKRKLQRRKGS 105
DB 105 CAPVSGKARSVRAQHTDMPRTPK-KPLSGNSHTSCKEVHOKNS 150

RESULT 11
Q91476 PRELIMINARY; PRT; 117 AA.
AC Q91476;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor (Fragment).
OS Salmo salar (Atlantic salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_TaxID=8030;
RN [1]
RC SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.,
RT "Nucleotide sequence and tissue distribution of three insulin-like
RT growth factor I prohormones in salmon."

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RL Mol. Endocrinol. 6:1202-1210(1992).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81904; AA18212.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
RN [2]
RC SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=96241923; PubMed=8680527;
RA Liang Y.H., Cheng C.H., Chan K.M.,
RT "Insulin-like growth factor Ieaf is the predominantly expressed form
RT of IGF in common carp (Cyprinus carpio)."
RT Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
RN [2]
RP SEQUENCE FROM N.A.
RA Vong Q.P., Chan K.M., Cheng C.H.K.,
RT "Common carp insulin-like growth factor-I gene: Genomic organization
RT and functional characterization of the 5'-flanking region."
RT Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; S82374; AA83702.2; -.
DR EMBL; AF465830; AAP78926.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.

RESULT 12
Q91B10 PRELIMINARY; PRT; 178 AA.
AC Q91B10;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Insulin-like growth factor I subtype Baf.
GN IGF-IBAF OR IGF-I.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=96241923; PubMed=8680527;
RA Liang Y.H., Cheng C.H., Chan K.M.,
RT "Insulin-like growth factor Ieaf is the predominantly expressed form
RT of IGF in common carp (Cyprinus carpio)."
RT Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
RN [2]
RP SEQUENCE FROM N.A.
RA Vong Q.P., Chan K.M., Cheng C.H.K.,
RT "Common carp insulin-like growth factor-I gene: Genomic organization
RT and functional characterization of the 5'-flanking region."
RT Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; S82374; AA83702.2; -.
DR EMBL; AF465830; AAP78926.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.

Query Match 60.4%; Score 362; DB 13; Length 117;
Best Local Similarity 69.7%; Pred. No. 2.2e-35;
Matches 69; Conservative 9; Mismatches 19; Indels 2; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 60
DB 19 GPEITCGAEIVDTLQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 78
QY 61 CVRCKPFSARSIRRAQHTDMPKTKOSQPLS--THKKRKLQRRKGS 97
DB 79 CAPVSGKARSVRAQHTDMPRTPK-KPLSGNSHTSCKEVHOKNS 117

RESULT 13
Q91B10 PRELIMINARY; PRT; 178 AA.
AC Q91B10;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Insulin-like growth factor I subtype Baf.
GN IGF-IBAF OR IGF-I.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=96241923; PubMed=8680527;
RA Liang Y.H., Cheng C.H., Chan K.M.,
RT "Insulin-like growth factor Ieaf is the predominantly expressed form
RT of IGF in common carp (Cyprinus carpio)."
RT Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
RN [2]
RP SEQUENCE FROM N.A.
RA Vong Q.P., Chan K.M., Cheng C.H.K.,
RT "Common carp insulin-like growth factor-I gene: Genomic organization
RT and functional characterization of the 5'-flanking region."
RT Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; S82374; AA83702.2; -.
DR EMBL; AF465830; AAP78926.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.

Query Match 60.4%; Score 362; DB 13; Length 117;
Best Local Similarity 69.7%; Pred. No. 2.2e-35;
Matches 69; Conservative 9; Mismatches 19; Indels 2; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 60
DB 19 GPEITCGAEIVDTLQFVCGPRGFYFNKPTVYGGSSIRRAPQGIIVDECCFSCDRLRLRY 78
QY 61 CVRCKPFSARSIRRAQHTDMPKTKOSQPLS--THKKRKLQRRKGS 97
DB 79 CAPVSGKARSVRAQHTDMPRTPK-KPLSGNSHTSCKEVHOKNS 117

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DR SMART; SMO0078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 FT NON TER 1 1  
 SQ SEQUENCE 133 AA; 14674 MW; A6991DBCB75C103B CRC64;  
 Query Match 69.8%; Score 418; DB 6; Length 133;  
 Best Local Similarity 89.5%; Pred. No. 5e-42;  
 Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPEITCGALVDALQVCGPRGFYFNKPTVYVSSIRRAPOGTIVDECCFRSCDLRLRLEY 60  
 DB 29 GPEITCGALVDALQVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEY 88

QY 61 CVRCKPTKSARSIRAPQHTDMPKTKQ 86  
 DB 89 CAPLKPASARSVRAPQHTDMPKAK 114

RESULT 8  
 ID P79167 PRELIMINARY; PRT; 139 AA.  
 AC P79167;  
 DT 01-MAY-1997 (TREMBLrel. 03, Created)  
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
 DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C) (Fragments).  
 GN IGF1.  
 OS Equus caballus (Horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 OC NCBI\_TaxID=9796;  
 RX MEDLINE=97013467; PubMed=8860303;  
 RC TISSUE=Liver;  
 RA "Cloning and sequencing of an equine insulin-like growth factor I cDNA and its expression in fetal and adult tissues";  
 RT Gen. Comp. Endocrinol. 102:11-15(1996).  
 RL [2]  
 RN SEQUENCE OF 123-139 FROM N.A.  
 RA Nixon A.J., Toland B.D., Sandell L.J.;  
 RL Submitted (JAN-1997) to the EMBL/Genbank/DBJ databases.  
 CC -1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.  
 CC -1- SUBCELLULAR LOCATION: SECRETED.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IB;  
 CC IsoId=P79167-1; Sequence=Displayed;  
 CC Name=IGF-1A;  
 CC IsoId=P51458-1; Sequence=External;  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 CC EMBL; U88070; AAA68952.1; -;  
 DR EMBL; U88070; AAA68952.1; -;  
 DR HSSP; P01343; 2GF1.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0008083; F:growth factor activity; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SMO0078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Signal; Alternative splicing.  
 FT SIGNAL 1 48  
 FT PROPEP ? 48 BY SIMILARITY.  
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.  
 FT DOMAIN 49 77 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.

FT DOMAIN 111 118 D.  
 FT PROPEP 119 >139 E PEPTIDE.  
 FT NON CONS 122 123  
 FT DISULFID 34 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT NON TER 139 139  
 SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;  
 Query Match 67.1%; Score 402; DB 6; Length 139;  
 Best Local Similarity 76.7%; Pred. No. 4.3e-40;  
 Matches 79; Conservative 2; Mismatches 10; Indels 12; Gaps 1;

QY 1 GPEITCGALVDALQVCGPRGFYFNKPTVYVSSIRRAPOGTIVDECCFRSCDLRLRLEY 60  
 DB 49 GPEITCGALVDALQVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEY 108

QY 61 CVRCKPTKSARSIRAPQHTDMPKTKQ 103  
 DB 109 CAPLKPASARSVRAPQHTDMPKAK 139

RESULT 9  
 ID O93380 PRELIMINARY; PRT; 153 AA.  
 AC O93380;  
 DT 01-NOV-1998 (TREMBLrel. 08, Created)  
 DT 01-NOV-1998 (TREMBLrel. 08, Last sequence update)  
 DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor-I precursor.  
 GN IGF1.  
 OS Meleagris gallopavo (Common turkey).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Meleagris.  
 OC NCBI\_TaxID=9103;  
 RX [1]  
 RC SEQUENCE FROM N.A.  
 RA STRAIN=Big 6 ML Tom; TISSUE=Liver;  
 RA Czerwinski S.M., Ashwell C.M., McMurry C.P.;  
 RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";  
 RL Submitted (JUN-1998) to the EMBL/Genbank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF074980; AAC26006.1; -;  
 DR HSSP; P01343; 2GF1.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SMO0078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Signal.  
 FT SIGNAL 1 48  
 FT CHAIN 49 118 POTENTIAL.  
 SQ SEQUENCE 153 AA; 17295 MW; SAPIES8D13CT0B5 CRC64;  
 Query Match 64.1%; Score 384; DB 13; Length 153;  
 Best Local Similarity 69.8%; Pred. No. 6.7e-38;  
 Matches 74; Conservative 7; Mismatches 17; Indels 8; Gaps 1;

QY 1 GPEITCGALVDALQVCGPRGFYFNKPTVYVSSIRRAPOGTIVDECCFRSCDLRLRLEY 60  
 DB 49 GPEITCGALVDALQVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEY 108

QY 61 CVRCKPTKSARSIRAPQHTDMPKTKQ 106  
 DB 109 CAPLKPASARSVRAPQHTDMPKAK 146

RESULT 10  
 O91230

Best Local Similarity 94.2%; Pred. No. 1.3e-44;  
Matches 81; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 49 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 108  
QY 61 CVRCKPTKSARSIRAPQHTDMPKTOK 86  
DB 109 CAPLKPKAKSARSVRAQHTDMPKTOK 134

RESULT 5  
Q9NP10 PRELIMINARY; PRT; 130 AA.  
AC Q9NP10;  
DT 01-OCT-2000 (TREMBlrel. 15, Created)  
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
DE IGFI protein precursor.  
GN IGFI.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OC NCBI\_TaxID=9606;  
[1]  
SEQUENCE FROM N.A.  
RX MEDLINE=8065102; PubMed=3683205;  
RA Rall L.B., Scott J., Bell G.T.;  
RT "Human insulin-like growth factor I and II messenger RNA: isolation of  
complementary DNA and analysis of expression.";  
RL Meth. Enzymol. 146:239-248 (1987).  
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
DR EMBL: M29644; AAA52543.1; -.  
DR HSSP: P01343; 2GFI.  
DR GO: GO:0005576; C:extracellular; IEA.  
DR GO: GO:0005179; F:hormone activity; IEA.  
DR GO: GO:0007582; P:physiological processes; IEA.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULINB.  
DR SMART: SM00078; IIGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
KW Signal.  
FT CHAIN 1 25 POTENTIAL.  
FT CHAIN 26 95 POTENTIAL.  
SQ SEQUENCE 130 AA; 14406 MW; 970FBAACFA0352D CRC64;

Query Match 70.6%; Score 423; DB 4; Length 130;  
Best Local Similarity 90.7%; Pred. No. 1.2e-42;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 26 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 85  
QY 61 CVRCKPTKSARSIRAPQHTDMPKTOK 86  
DB 86 CAPLKPKAKSARSVRAQHTDMPKTOK 111

RESULT 6  
Q14620 PRELIMINARY; PRT; 137 AA.  
AC Q14620;  
DT 01-NOV-1996 (TREMBlrel. 01, Created)  
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)  
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
DE Insulin-like growth factor I precursor.  
GN IGFI.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OC NCBI\_TaxID=9606;  
[1]  
SEQUENCE FROM N.A.  
RX MEDLINE=9187000; PubMed=2082190;  
RA Tobin G., Yee D., Brunner N., Rotwein P.;  
RT "A novel human insulin-like growth factor I messenger RNA is expressed  
in normal and tumor cells.";  
RL Mol. Endocrinol. 4:1914-1920 (1990).  
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
DR EMBL: M37484; AAA52789.1; -.  
DR PIR: A36552; A36552.  
DR HSSP: P01343; 2GFI.  
DR GO: GO:0005576; C:extracellular; IEA.  
DR GO: GO:0005179; F:hormone activity; IEA.  
DR GO: GO:0007582; P:physiological processes; IEA.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULINB.  
DR SMART: SM00078; IIGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
KW Signal.  
FT CHAIN 1 32 POTENTIAL.  
FT CHAIN 33 137 INSULIN-LIKE GROWTH FACTOR I.  
SQ SEQUENCE 137 AA; 15177 MW; BFCOD1B32AB75D CRC64;

Query Match 70.6%; Score 423; DB 4; Length 137;  
Best Local Similarity 90.7%; Pred. No. 1.3e-42;  
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 60  
DB 33 GPEITCGAEIVDALQFVCGRGFFYFNKPVTYSSIRRAPOTGIYDECCFRSCDLRLLEY 92  
QY 61 CVRCKPTKSARSIRAPQHTDMPKTOK 86  
DB 93 CAPLKPKAKSARSVRAQHTDMPKTOK 118

RESULT 7  
Q9NIC1 PRELIMINARY; PRT; 133 AA.  
AC Q9NIC1;  
DT 01-OCT-2000 (TREMBlrel. 15, Created)  
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
DE Insulin-like growth factor I (Fragment).  
GN IGFI.  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Bovinae; Bos.  
OC NCBI\_TaxID=9913;  
[1]  
SEQUENCE FROM N.A.  
RA Lien S., Karlsten A., Klemetsdal G., Vage D.I., Olseker I.,  
KL Klungland H., Aasland M., Heringstad B., Rane U., Gomez-Raya L.;  
RT "A primary screen of the bovine genome for quantitative trait loci  
affecting twinning rate.";  
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
DR EMBL: AF210387; AAF72409.1; -.  
DR EMBL: AF210385; AAF72409.1; JOINED.  
DR EMBL: AF210386; AAF72409.1; JOINED.  
DR HSSP: P01343; 2GFI.  
DR GO: GO:0005576; C:extracellular; IEA.  
DR GO: GO:0005179; F:hormone activity; IEA.  
DR GO: GO:0007582; P:physiological processes; IEA.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULINB.

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Db 33 GPEITCGAELVDALQVCGPRGFYFNKPGYSSIRRAQDTGVDECCFRSCDLRLRLEMY 92
QY 61 CVRCXPTKSARSIRARHTDMPKTKSQPLSTHKRKLQRRRKG 104
Db 93 CAPLKPTKARSIRARHTDMPKTKSQPLSTHKRKLQRRRKG 136

RESULT 2
ID Q13429 PRELIMINARY; PRT; 139 AA.
AC Q13429;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor-1 (Fragment).
GN IGF-1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-1
RT transcript with hepatic tissue expression that diverges away from the
RT mitogenic IBS1 peptide."
RL Endocrinology 136:1939-1944(1995).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U40870; AAA96152.1; -.
DR HSSP; P01343; 2GFI.
DR GO; GO:000576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR SMART; SM00277; INSULINB.
DR PROSITE; PS00262; INSULIN; 1.
FT NON TER
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 81.2%; Score 486.5; DB 4; Length 139;
Best Local Similarity 84.7%; Pred. No. 3.3e-50;
Matches 94; Conservative 2; Mismatches 14; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQVCGPRGFYFNKPGYSSIRRAQDTGVDECCFRSCDLRLRLEMY 60
Db 30 GPEITCGAELVDALQVCGPRGFYFNKPGYSSIRRAQDTGVDECCFRSCDLRLRLEMY 89

QY 61 CVRCXPTKSARSIRARHTDMPKTKSQPLSTHKRKLQRRRKG 111
Db 90 CAPLKPTKARSIRARHTDMPKTKSQPLSTHKRKLQRRRKG 139

RESULT 3
ID P97899 PRELIMINARY; PRT; 127 AA.
AC P97899;
DT 01-MAY-1997 (TREMBLrel. 03, Created)
DT 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor 1.
GN Rattus sp.
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_Taxid=10118;
RN [1]
RP PARTIAL SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;

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RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=9103966; PubMed=1368571;
RA Kato H., Okoshi A., Mura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat insulin-
RT like growth factor-I mRNA."
RL Agric. Biol. Chem. 54:1599-1601(1990).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; D00698; BAA00604.1; -.
DR HSSP; P01343; 2GFI.
DR GO; GO:000576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT CHAIN 23
SQ SEQUENCE 127 AA; 14106 MW; 104E126BFCAC5CB7 CRC64;

Query Match 74.0%; Score 443; DB 11; Length 127;
Best Local Similarity 95.3%; Pred. No. 4.8e-45;
Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQVCGPRGFYFNKPGYSSIRRAQDTGVDECCFRSCDLRLRLEMY 60
Db 23 GPEITCGAELVDALQVCGPRGFYFNKPGYSSIRRAQDTGVDECCFRSCDLRLRLEMY 82

QY 61 CVRCXPTKSARSIRARHTDMPKTK 86
Db 83 CAPLKPTKARSIRARHTDMPKTK 108

RESULT 4
ID Q8C4U6 PRELIMINARY; PRT; 153 AA.
AC Q8C4U6;
DT 01-MAR-2003 (TREMBLrel. 23, Created)
DT 01-MAR-2003 (TREMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Unknown EST.
GN C730016P09RIK.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_Taxid=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=C57BL/6J; TISSUE=Cerebellum;
RX MEDLINE=22354683; PubMed=12466851;
RA The FANTOM Consortium.
RA "The RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs."
RL Nature 420:563-573(2002).
DR EMBL; AK081019; BAC38117.1; -.
DR MGD; MGI:2444166; C730016P09RIK.
DR GO; GO:000576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 153 AA; 17093 MW; 967596AEAC0CA387 CRC64;

Query Match 73.5%; Score 440; DB 11; Length 153;

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 33.4337 Seconds  
(without alignments)  
1047.520 Million cell updates/sec

Title: US-09-852-261-4

Perfect score: 599

Sequence: 1 GPETLGAELVDALQFVCGP.....THKKRLQRRKRSITLFEHK 111

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :  
1: SP\_ARCHAEA:\*  
2: SP\_BACTERIA:\*  
3: SP\_FUNGI:\*  
4: SP\_HUMAN:\*  
5: SP\_INVERTEBRATE:\*  
6: SP\_MAMMAL:\*  
7: SP\_THIC:\*  
8: SP\_ORGANELLE:\*  
9: SP\_PHAGE:\*  
10: SP\_PLANT:\*  
11: SP\_RODENT:\*  
12: SP\_VIRUS:\*  
13: SP\_VERTEBRATE:\*  
14: SP\_UNCLASSIFIED:\*  
15: SP\_XVIRUS:\*  
16: SP\_BACTERIAP:\*  
17: SP\_ARCHAEP:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	505	84.3	165	11 Q8CAR0	Q8CAR0 mus musculus
2	486.5	81.2	139	4 Q13429	Q13429 homo sapien
3	443	74.0	127	11 P97899	P97899 rattus sp.
4	440	73.5	153	11 Q8C4U6	Q8C4U6 mus musculus
5	423	70.6	130	4 Q9NP10	Q9NP10 homo sapien
6	423	70.6	137	4 Q14620	Q14620 homo sapien
7	418	69.8	133	6 Q9N1C1	Q9N1C1 bos taurus
8	402	67.1	139	6 P79167	P79167 equus caball
9	384	64.1	153	13 Q93380	Q93380 melaleucis g
10	362.5	60.5	161	13 Q91230	Q91230 oncorhynch
11	362	60.4	117	13 Q91476	Q91476 salmo salar
12	362	60.3	178	13 Q91B10	Q91B10 cyprinus ca
13	361	60.3	145	13 Q91475	Q91475 salmo salar
14	361	60.3	155	13 Q91162	Q91162 oncorhynch
15	361	60.3	188	13 P81268	P81268 oncorhynch
16	361	60.3	188	13 Q91965	Q91965 oncorhynch

17	360	60.1	116	13 Q91161	Q91161 oncorhynch
18	360	60.1	149	13 Q91231	Q91231 oncorhynch
19	359	59.9	161	13 Q90VV9	Q90VV9 brachydanio
20	355	59.3	186	13 Q93527	Q93527 parichthy
21	355	59.3	186	13 Q800Y5	Q800Y5 siganus gut
22	354	59.1	186	13 Q7T1A7	Q7T1A7 perca flav
23	351.5	58.7	185	13 Q57436	Q57436 parichthy
24	351	58.6	117	13 Q91914	Q91914 ctenopharyn
25	351	58.6	159	13 Q93607	Q93607 parichthy
26	348	58.1	161	13 Q98SR6	Q98SR6 megalobrama
27	348	58.1	161	13 Q800D5	Q800D5 megalobrama
28	347	57.9	161	13 Q9PMK2	Q9PMK2 carassius a
29	347	57.9	186	13 Q9PSX5	Q9PSX5 parichthy
30	345	57.6	182	13 Q42289	Q42289 creochromis
31	344	57.4	182	13 Q9Y182	Q9Y182 carassius a
32	344	57.4	182	13 Q73720	Q73720 creochromis
33	344	57.4	182	13 P79824	P79824 creochromis
34	341	56.9	104	13 Q7T107	Q7T107 dicentrarch
35	341	56.9	108	13 Q800N0	Q800N0 morone chry
36	341	56.9	108	13 Q800N9	Q800N9 morone saxa
37	341	56.9	108	13 Q800M8	Q800M8 morone chry
38	341	56.9	108	13 Q800M7	Q800M7 morone amer
39	332.5	55.5	185	13 Q9Y157	Q9Y157 acanthopagr
40	326	54.4	184	13 Q42336	Q42336 myoxocephal
41	325.5	54.3	69	6 Q02807	Q02807 bubalus bub
42	310	51.8	66	6 Q9N1S6	Q9N1S6 caprellus c
43	279.5	46.7	126	13 Q91442	Q91442 squatus aca
44	267	44.6	57	6 Q28236	Q28236 cervus elap
45	255.5	42.7	215	13 Q73721	Q73721 tilapia sp.

## ALIGNMENTS

## RESULT 1

Q8CAR0; PRELIMINARY; PRT; 165 AA.  
AC Q8CAR0;  
DT 01-MAR-2003 (TRENBLREL. 23, Created)  
DT 01-MAR-2003 (TRENBLREL. 23, Last sequence update)  
DT 01-OCT-2003 (TRENBLREL. 25, Last annotation update)  
DE Unknown EST.  
GN C730016P09R1K.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.  
OX NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=C57BL/6J; TISSUE=Thymus;  
RX MEDLINE=22354683; PubMed=12466851;  
RA The FANTOM Consortium,  
RA The RIKEN Genome Exploration Research Group Phase I & II Team;  
RT "Analysis of the mouse transcriptome based on functional annotation of  
RT 60,770 full-length cDNAs."  
RL Nature 420:563-573(2002).  
DR EMBL; AK038119; BAC29934.1; .  
DR MGD; MGI:2444166; C730016P09R1K.  
DR GO; GO:0005576; C:extracellular; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007582; P:physiological processes; IEA.  
DR InterPro; IPR004825; Ims/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PR00277; INSULIN.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
SQ SEQUENCE 165 AA; 18473 MW; 2CE0D3DA981C93F8 CRC64;

Query Match 84.3%; Score 505; DB 11; Length 165;  
Best local similarity 91.3%; Pred. No. 2,5e-52;  
Matches 95; Conservative 2; Mismatches 7; Indels 0; Gaps 0;  
QY 1 GPETLGAELVDALQFVCGPFGYFNKPTVYGSSIRRAQTGIIVDECCFRSCDLRLLEMY 60